

VA SOL Standard: 8.1 The student will apply and demonstrate movement concepts and skills in modified versions of various game/sport, rhythmic and recreational activities.

ENDURING UNDERSTANDINGS

- Acquisition of movement concepts and patterns allows students to successfully participate in and apply strategies in a variety of activities.
- Physical skill proficiency enhances the quality of life by allowing individuals to participate in enjoyable physical activities.

<p>VDOE Standard(s) Student Friendly Language What will the student know and be able to do?</p>	<p>SUGGESTED/SAMPLE ASSESSMENTS</p>	<p>Terms (Vocabulary) and Content Information</p>	<p>SUGGESTED/SAMPLE ACTIVITIES</p>
<p>8.1 a) 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, to include reducing space, transitioning from offense to defense quickly, communicating with teammates and selecting appropriate tactics to gain defensive advantage.</p> <p>Suggested Learning Targets:</p> <p>I can show the defensive strategy reducing space in (specific activity i.e. basketball) and demonstrate it to my teacher.</p> <p>I can adapt movements to changing game situations in (specific activity) when challenged and not challenged by opponents and demonstrate it through a video self-assessment.</p> <p>I can demonstrates coverage of play in (specific activity i.e. softball - e.g., first-base person fields the ball and pitcher covers first base) and write a reflective paragraph on how I demonstrated this in (specific activity).</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Pre-test skill performance of mastery movement forms and skill combinations. • Teacher observation • Written: <ul style="list-style-type: none"> ○ Pre-test cognitive knowledge for skills needed to be successful in activity(s) selected. ○ Identify skills and movements in selected activities/games, compare to other activities/games; and explain how to adapt those skills to fit the needs of that activity/game. ○ Self and peer assessments. ○ Teachers Observation with feedback. • Teacher Verbal and Written Feedback • Video: Analyze movement forms in cooperative and tactical activities and make suggestions improvement. • Skill Checklist (for discrete skills). • Skill Rubric (for game/activity application). 	<ul style="list-style-type: none"> • Strategy: An overall game plan and the sum of all tactics used. • Tactics: Decisions about what actions to take in response to problems that arise during a game. • Skillful play within games requires manipulative skills that come from the following three broad categories: <ul style="list-style-type: none"> ○ Sending an object away: striking, volleying, kicking or throwing it. ○ Receiving/gaining possession of an object: by catching (trapping) or collecting it (i.e., gaining control of and/or redirecting an object coming along the ground. ○ Traveling with and retaining the object: by carrying or propelling it (e.g., dribbling). • Offensive Skills <ul style="list-style-type: none"> ○ Give and go ○ Fakes (ball/head) ○ Pivots ○ Changing (direction/speed) • Defensive Skills <ul style="list-style-type: none"> ○ Player to player ○ Reducing size of passing lane ○ Reducing space 	<ul style="list-style-type: none"> • Manipulation of game components, such as rules, number of players, dimensions of the playing space and movement within the playing space to create games and ‘play practice’ scenarios that develop tactical understanding and the application of movement skills for intelligent play. • Drills to develop movement competencies necessary to successfully apply the movement solutions of a tactical problem such as: Offensive tactics to create open space: moves to create open space on and off the ball; a variety of passes, fakes and pathways; and give and go. • Modified small-group activities/games involving passing and receiving with an implement in combination with locomotor patterns of running and change of direction and speed with competency (e.g., lacrosse, hockey: floor, field, ice). • Modified small-group activities/games involving the execution of at least two of the following to create open space: pivots, fakes, jab steps, and/or screens

<p>I can show the defensive strategies reducing space, transitioning from offense to defense quickly, communicating with teammates and selecting appropriate tactics to gain defensive advantage in (specific activity) and demonstrate it through a rubric.</p>	<p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Written: Post cognitive tests for comprehension of strategies and tactics to gain defensive advantage. • Skill Rubric <p style="text-align: center;">Sample Rubric</p> <p>4 (<i>Beyond what was taught.</i>) Displays consistent and correct performance of all elements during unpredictable situations; includes smooth transitions between skills/movements; includes advanced strategies and tactics</p> <p>3 (<i>What was explicitly taught.</i>) Performs all critical elements (mature movement skills and patterns) appropriately and consistently during unpredictable situations and adapts movements to changing situations during game play.</p> <p>2 (<i>Identify basic elements.</i>) Performs critical elements (mature movements skills and patterns) in isolation (outside of game play or when unchallenged).</p> <p>1 (<i>With help/prompts/cues.</i>) With teacher cues, student can demonstrate some/most of the critical elements in isolation (outside of game play).</p>	<ul style="list-style-type: none"> ○ Transitioning from offense to defense quickly ○ Communicating with teammates ○ Selecting appropriate tactics to gain defensive advantage. 	<ul style="list-style-type: none"> • Modified small-group activities/games involving dribbling with dominant and non-dominant hand/foot using a change of speed and direction. • Modified small-group activities/games involving a mature overarm pattern, for net/wall games. (e.g., volleyball, handball, badminton, tennis) • Modified small-group activities/games involving transitions from offense to defense or defense to offense by recovering quickly, communicating with teammates, and taking advantage for gain • Modified small-group activities/games involving the creation of open space in net/wall games using either a long- or short-handled implement by varying force, direction, moving opponent side to side, and/or forward or back.
<p>Resources: SHAPE America National Standards and Grade-Level Outcomes; http://www.doe.virginia.gov/instruction/physed/index.shtml; http://www.pecentral.org/lessonideas/cues/cuesmenu.asp; http://www.pecentral.org/lessonideas/searchresults.asp?category=53 http://www.thephysicaleducator.com/resources/games/invasion/; http://www.thephysicaleducator.com/resources/games/net-wall/ http://www.thephysicaleducator.com/resources/games/striking-fielding/; http://www.thephysicaleducator.com/resources/games/target/; http://files.eric.ed.gov/fulltext/EJ795561.pdf; http://hooptactics.com/Free_Area_Offensive_Basketball_Strategies/; http://www.soccer-training-info.com/soccer_strategy_tactics.asp; http://www.ducksters.com/sports/footballstrategy.php; http://learntocoachbasketball.com/sign-up/coaching-course/skill-development/level-i-tactical-skills; http://www.tennistips.org/tennis-technique.html; http://www.strength-and-power-for-volleyball.com/volleyball-strategies.html; http://www.usultimate.org/assets/1/Page/Teaching%20Ultimate_beta3.pdf</p>			

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ENDURING UNDERSTANDINGS

- Rhythmic movement builds a sense of community, social skills, music concepts, physical education abilities, timing, and coordination and is a valuable tool for fitness throughout one's life.
- Rhythmic movement enables students to discover their own innate capacity for the communication of ideas, thoughts, and feelings through the medium of dance.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.1 b) Create a rhythmic movement sequence to music as an individual or in a group.</p> <p>Suggested Learning Targets:</p> <p>I can develop a proper sequence of steps in movement combinations for an individual or group rhythmic sequence and present it to my teacher.</p> <p>I can perform an individual or group rhythmic sequence and demonstrate this through a group presentation.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Questioning to check for understanding • Peer assessment: Evaluate a created rhythmic movement sequence to music for revision and refinement. • Videotaping: For refinement of a created movement sequence to music. <p>Assessment of Learning (Summative)</p> <p>Develop a rhythmic movement sequence to music using basic dance elements, (select length), demonstrate and teach it to the class.</p> <ul style="list-style-type: none"> • Rubric for creating a dance/rhythmic sequence. <p style="text-align: center;">Sample Rubric</p> <p>4 (<i>Beyond what was taught</i>) Creates and displays rhythmic movement sequence with variety of movements.</p> <p>3 (<i>What was explicitly taught</i>) Creates and displays a rhythmic movement sequence.</p>	<ul style="list-style-type: none"> • Movement: Counts of 4/8. • Combinations: Putting two or dance moves together. • Pattern: Repeating a sequence. • Flow: The direction of movement. • Transitions: When a movement, phrase or section of a dance progresses into the next. • Leading/following: Leading or following others actions. • Mirroring/matching: Copying another individual's actions. • Routine: A sequence of movements in a fixed program. • Sequence: A particular order in which related movements follow each other. • Beat: The basic unit of a rhythmic measure. • Rhythm: Regular, repeated pattern of sounds or movements. • Tempo: The speed of music or a dance. 	<ul style="list-style-type: none"> • Class discussion on the greater awareness of feelings towards the avenues of self-expression provided through dance and other artistic sports. • Lessons on rhythm or dance, such as combining traveling, balancing, and weight transfer into smooth, flowing sequences with intentional changes in direction, speed, and flow. • Dance/rhythmic sequences done in small groups, partners or by individuals. <p>Note: Music for use with students should be pre-approved by the teacher for appropriate lyrics.</p>

	<p>2 (<i>Identify basic elements</i>) Performs critical elements of rhythmic movement sequence.</p> <p>1 (<i>With help/prompts/cues</i>) With teacher cues, student can demonstrate some/most of the critical elements in isolation.</p>	<p>• Levels:</p> <ul style="list-style-type: none"> ○ Low: ground level– crawling, slithering, rolling, and kneeling ○ Medium: walking level– walking, running, and sliding ○ High: movement in the air– hopping, skipping, jumping, and leaping 	
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Resources:
 SHAPE America National Standards and Grade-Level Outcomes;
 American Alliance for Health, Physical Education, Recreation and Dance Grade-Level Outcomes for K-12 Physical Education;
<http://www.pecentral.org/lessonideas/middlehigh/middlehighideas.asp>; <http://www.pecentral.org/lessonideas/ViewLesson.asp?ID=5480#.V6VEyf36upo>;

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ENDURING UNDERSTANDINGS

- Skill-related fitness increases one’s ability to perform in various activities and leads to good overall health.
- Skill-related components of fitness are not skills, but the building blocks of exercise and physical activity.

<p>VDOE Standard(s) Student Friendly Language What will the student know and be able to do?</p>	<p>SUGGESTED/SAMPLE ASSESSMENTS</p>	<p>Terms (Vocabulary) and Content Information</p>	<p>SUGGESTED/SAMPLE ACTIVITIES</p>
<p>8.1 c) Demonstrate skill-related components of fitness (agility, balance, coordination, power, reaction time and speed) specific to a variety of activities.</p> <p>Suggested Learning Targets:</p> <p>I can apply the concept of balance by showing balancing on a balance board and explaining the concepts of static balance to a peer.</p> <p>I can demonstrate speed through fast breaks to a layup in basketball and explain how speed helps to gain advantage over your opponents through an exit ticket.</p> <p>I can demonstrate agility through changing directions to hit a tennis ball and self-assess that ability through a video self-assessment</p> <p>I can show coordination through catching a ball in a lacrosse scoop while running and explain where I demonstrate coordination in other physical activities to my teacher.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Group presentations. Example: Groups are placed in different areas. Class reviews the skill-related components of fitness. Each group is assigned a skill-related component of fitness to identify physical activities or a game specific activity that relates to each component. Groups present and demonstrate their activities. Example presentation: Balance is important in the sport-specific activity of cross-country skiing, as well as in a general physical activity such as balancing on balance boards or skateboards. • Journals: <ul style="list-style-type: none"> ○ Gathering and organizing information on the skill-related components of fitness ○ How the skill-related components of fitness apply to specific activities • Self/Peer Assessment 	<ul style="list-style-type: none"> • Agility: The ability to change and control the direction and position of the body while maintaining a constant, rapid motion. Examples: <ul style="list-style-type: none"> ○ Changing directions to hit a tennis ball ○ Dodging defenders in game play • Balance: The ability to control or stabilize the body when a person is standing still or moving. Balance can be static or dynamic. Static balance means that the athlete is not moving, such as performing a handstand. Dynamic balance means that the athlete maintains equilibrium while moving, such as in slalom ski events. Other Examples: <ul style="list-style-type: none"> ○ In-line skating ○ Landing after a rebound in basketball • Coordination: The ability to use the senses together with body parts during movement. To move smoothly and efficiently. Examples: <ul style="list-style-type: none"> ○ Dribbling a basketball. Using the hands and eyes together is an example of hand-eye coordination. ○ Catching a ball in a lacrosse scoop while running. • Speed: The ability to move your body or parts of your body as quickly as possible. Many sports rely on speed to gain advantage over your opponents. Examples: <ul style="list-style-type: none"> ○ A basketball player making a fast break to perform a layup. ○ A tennis player moving forward to get to a drop shot. 	<ul style="list-style-type: none"> • Activities to improve the skill-related components of fitness. Examples: <ul style="list-style-type: none"> ○ To improve quickness and speed in order to beat the defenders who are covering you, work with explosive plyometric exercises such as box jumps or squat jumps. They will help improve the muscles for explosive speed. ○ General movement patterns (e.g., running, jumping, throwing) are used to develop strength and power • Medicine ball training, jump rope and agility ladder exercises to enhance agility and reduce movement time • Demonstration of the skill-related components of fitness through modified game specific activities. Examples: <ul style="list-style-type: none"> ○ Power in forehand or backhand strokes in net/wall games ○ Anticipates the speed of an object or person for the purpose of interception or deflection • Class discussions on how the physical activity for the day

<p>I can demonstrate power through running quickly to a volleyball net and jumping high to block a volleyball and explain how power is a combination of speed and muscular strength to a peer.</p> <p>I can demonstrate reaction time through passing a baton in a track relay and give other examples through a partner discussion.</p>	<p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Develop a physical activity routine that will demonstrate each of the skill-related components of fitness. Explain how each activity applies to a different skill-related component and how each activity causes improvement of the specific component. 	<ul style="list-style-type: none"> ○ A football player out running the defense to receive a pass. • Power: The ability to move the body parts rapidly while applying the maximum force of the muscles. Power is a combination of both speed and muscular strength. Examples: <ul style="list-style-type: none"> ○ Fullbacks in football muscling their way through other players and speeding to advance the ball. ○ Volleyball players getting up to the net and lifting their bodies high into the air. ○ Olympic lifting ○ Shot putting • Reaction Time: The ability to reach or respond quickly to what you hear, see or feel. Examples: <ul style="list-style-type: none"> ○ An athlete quickly coming off the blocks early in a swimming relay ○ A track relay ○ Stealing a base in baseball 	<p>contributes to the skill-related components of fitness. Example: Sprinting – Stability ball programs, BOSU® training and balance board exercises to enhance balance.</p>
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Resources:
SHAPE America National Standards and Grade-Level Outcomes;
VDOE Physical Education Instructional Resources <http://www.doe.virginia.gov/instruction/phyped/index.shtml>;
Glencoe Health Books–Copyright by the McGraw Hill Companies, Inc.
http://www.glencoe.com/sites/common_assets/health_fitness/gln_health_fitness_zone/pdf/heart_rate_monitor_activities/health_skill_related_fitness/health_skill_related_fitness_activity_4.pdf

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ENDURING UNDERSTANDING

- Biomechanics is the scientific study of the mechanics of biological and musculoskeletal activity; helps explain how and why the body moves.

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<p>8.1 d) Apply and demonstrate biomechanical principles of force, motion (laws of motion), rotation and energy.</p> <p>Suggested Learning Targets:</p> <p>I can apply the concept of force when (specific activity e.g., batting in softball, serving a tennis ball) to impact performance and explain it to a peer.</p> <p>I can apply the concept of motion and rotation by producing spin on a (specific object: e.g., bowling ball, tennis ball, ping pong ball) to impact performance and explain it to the teacher.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Questioning to check for understanding: Example – What is more important in throwing an object, the angle (height of the release) or the speed of release? (Answer: Speed) • Written: Research how the different designs of baseball bats effect how a ball will respond even if the same amount of force is applied. Explain the connection between the bat and transfer of energy from your body to the ball. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Demonstrate and explain the effects of serving a tennis ball on different surfaces. Include the effects of different heights of individuals on the serve. Make connections to the biomechanical principles of force, motion, rotation and energy. 	<ul style="list-style-type: none"> • Force: Strength or energy exerted; cause of motion such as force needed to throw or strike for distance and/or accuracy. • Motion Newton’s laws: such as with a tennis ball. <ul style="list-style-type: none"> ○ Newton Law One – (Law of Inertia) Object in motion stays in motion while an object at rest stays at rest unless an external force is exerted (An object will not move unless force is applied) – A tennis ball continues on a straight path after being hit unless acted upon by a force (another strike from a racquet or gravity). ○ Newton Law Two– (Law of Acceleration) Speed at which an object moves; this speed depends on the amount of force applied to the object. – A tennis ball that is struck with more force has a higher rate of speed/acceleration than being struck with less force; the greater the mass, the greater the amount of force needed to accelerate the object. ○ Newton law Three – (Law of Reaction) For every action there is an equal and opposite reaction. When the second player strikes the ball, the ball is acted upon by a force; equal and opposite. Force that the ball exerts on the racket is equal and opposite to the force that the racket exerts on the ball. • Rotation: Applying a motion to produce 	<ul style="list-style-type: none"> • Class discussions of the biomechanical principles of a physical activity. Example – <ul style="list-style-type: none"> ○ Sprinting is produced by a rotary motion of the limbs as they pivot at an individual’s joints and the individual’s center of gravity rises and falls during each stride. ○ Rotating is a term that indicates an object or an individual is turning through an angle or number of degrees. In sports such as gymnastics, skateboarding, basketball, diving, figure skating, and ballet, the movements used by athletes include quarter turns (90 degrees); half turns (180 degrees); and full turns or “revs” (revolutions), which are multiples of 360 degrees. Slam dunk competitions are a great example of basketball players showing off their “360s.” ○ A tennis ball hit with topspin will rebound faster and lower. A tennis ball hit with backspin will rebound slower and higher. • Perform activities on different playing surfaces. Example – <ul style="list-style-type: none"> ○ Tennis on asphalt, grass, and clay/dirt.

		spin on a tennis ball, bowling ball, ping pong, volleyball, and the resulting movement.	
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- Energy: The ability to do work, work is moving something against a force such as gravity; we use energy for everything we do.

Resources:

SHAPE America National Standards and Grade-Level Outcomes;

<http://www.hhp.txstate.edu/hper/faculty/pankey/bioprin/htm/index.html>; <http://www.slideshare.net/ryanm9/year-11-biomechanics-with-levers-force-summation>;

<http://www.teachpe.com/biomechanics/angular-motion/>; <http://www.teachpe.com/biomechanics/forces/>

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ENDURING UNDERSTANDINGS

- Balance is both a static and dynamic process that makes it possible for the body to maintain its center of gravity over its base of support.
- 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 increases.
- Dynamic balance is a key component of normal daily activities such as walking, running and climbing stairs.
- Core muscles provide the foundation for movement throughout your entire body and are incorporated into almost every movement of the human body acting as a stabilizer to help gain greater balance.

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<p>8.1 e) Demonstrate balance (center of support and center of gravity) in a variety of activities.</p> <p>Suggested Learning Targets:</p> <p>I can explain and show the importance of body position when receiving a serve in (specific activity e.g., tennis volleyball, badminton) and demonstrate it through a peer discussion.</p> <p>I can describe and demonstrate how balance is a key to all functional movements through a summary paragraph.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Teacher observation. • Oral: Partner discussions – Example: How can your balance become more stable? Answer – Stability is enhanced by determining body’s center of gravity and appropriately changing it. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Students will research balance, demonstrate activities that require balance and explain how balance applies to the activities. Example – <ul style="list-style-type: none"> ○ Walking: A person throws the body in and out of balance with each step ○ Running: The center of gravity has to be lowered to maintain balance when stopping or changing direction ○ Jumping: The center of gravity needs to be raised as high as possible 	<ul style="list-style-type: none"> • Balance: The ability to maintain the body’s center of gravity within the limits of stability as determined by the base of support. <ul style="list-style-type: none"> ○ The lower the center of gravity to the base of support, the greater the stability. ○ The nearer the center of gravity to the center of the base of support, the more stable the body. ○ An individual’s limits of stability are the distance outside of his or her base of support he or she can go without losing control of the center of gravity. • Center of gravity: The point at which all of the body’s mass and weight are equally balanced or equally distributed in all directions. <ul style="list-style-type: none"> ○ Dynamic activities can also be described as those that cause the center of gravity to move in response to muscular activity. ○ The muscles traditionally referred to as “the core” provide a working surface for our extremities to push off of, which is crucial for any kind of movement. The core is where we generate, absorb, and transfer forces to and from our extremities. Strengthening core muscles will improve stability of the lumbar spine which is beneficial for improving balance. 	<ul style="list-style-type: none"> • Teach similarities in body position and the relationship to balance when receiving different types of serves (e.g., volleyball, badminton, tennis). Discuss reasons why they are similar. • Teach similarities in body position when defending a player (e.g., basketball, soccer, ultimate). Discuss reasons why they are similar. • Muscular strength training activities and discussions on how strengthening the core muscles will improve balance in dynamic activities. • Discussions on balance, equilibrium and stability in relationship to oncoming forces. Example – In anticipation of an oncoming force, stability may be increased by enlarging the size of the base of support in the direction of the anticipated force.
<p>Resources: SHAPE America National Standards and Grade-Level Outcomes;</p>			

<http://www.humankinetics.com/excerpts/excerpts/five-factors-determine-stability-and-mobility;>

[https://www.google.com/search?q=biomechanical+principles+\(e.g.,+center+of+gravity,+base+of+support\)&biw=1536&bih=696&tbm=isch&tbo=u&source=univ&sa=X&ved=0ahUKEwjU7_Kf6qzOAhWDbiYKHReiDG0QsAQIKQ&dpr=1.25;](https://www.google.com/search?q=biomechanical+principles+(e.g.,+center+of+gravity,+base+of+support)&biw=1536&bih=696&tbm=isch&tbo=u&source=univ&sa=X&ved=0ahUKEwjU7_Kf6qzOAhWDbiYKHReiDG0QsAQIKQ&dpr=1.25;)

[http://www.yogajournal.com/article/practice-section/plumb-perfect/;](http://www.yogajournal.com/article/practice-section/plumb-perfect/)

http://www.heart.org/HEARTORG/HealthyLiving/PhysicalActivity/FitnessBasics/Balance-Exercise_UCM_464001_Article.jsp#.V6eFYP36upo;

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ENDURING UNDERSTANDINGS

- Improvements in performance depend upon the training methods used.
- Proper and comprehensive warm-up and cool-down protocols are essential to short-term exercise performance, as well as long-term injury prevention and general physical health.
- The principles of overload, specificity and progression are highly interconnected and are interdependent.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.1 f) Demonstrate physiological principles of warm-up, cool down, overload, specificity and progression to improve performance.</p> <p>Suggested Learning Targets:</p> <p>I can perform a proper warm-up and cool down for (selected activity) and demonstrate it to my teacher.</p> <p>I can apply (overload, specificity or progression) to improve skill performance and demonstrate it to my partner.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Questioning to check for understanding • Teacher observation • Post diagrams or pictures of various exercises around the area. Groups visit each diagram or picture and decide what type of workout program the illustrated exercise would apply and whether it would be used as part of the warm-up or cool down. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Design a fitness workout program for one of these areas: flexibility, cardiorespiratory endurance or muscular strength and endurance. The workout program will be designed for a two month period and include– <ul style="list-style-type: none"> ○ A warm up ○ Exercises that show the principles of overload, specificity and progression. ○ A cool down <p>Examples:</p> <ul style="list-style-type: none"> ○ Overloading for cardiorespiratory 	<ul style="list-style-type: none"> • Purpose of warm ups: <ul style="list-style-type: none"> ○ To increase your breathing and heart rate ○ To increase the energy-releasing reactions in the muscles ○ To promote blood flow to the muscles, supply them with more oxygen and to remove waste products ○ Prepares your muscles for stretching • Purpose of cool downs: <ul style="list-style-type: none"> ○ To help your heart rate and breathing move towards resting levels ○ To help avoid fainting or dizziness. ○ To help remove waste products from your muscles, such as lactic acid. ○ To help prepare muscles for the next exercise session. • Principle of overload: A person must work (load) the body in a higher manner than normal in order to improve fitness. <ul style="list-style-type: none"> ○ For improved cardiorespiratory endurance: It would mean walking faster and farther or more times a week than normal. ○ For improved muscular strength and endurance: It means contracting the muscles for a longer period of time or more frequently during the week or adding weight to the number of repetitions performed. ○ For improved flexibility: It would require stretching more often, holding stretches for 	<ul style="list-style-type: none"> • Specific lessons on the basic principles of training and examples for students to perform (e.g., warm-up, cool down, overload, specificity and progression) Example: Flexibility training <ul style="list-style-type: none"> ○ Dynamic flexibility: The ability to perform dynamic movements within the full range of motion in the joint. Common examples include twisting from side to side or kicking an imaginary ball. Dynamic flexibility is generally more sport-specific than other forms of mobility. ○ Static Active flexibility: The ability to stretch an antagonist muscle using only the tension in the agonist muscle. An example is holding one leg out in front of you as high as possible. The hamstring (antagonist) is being stretched while the quadriceps and hip flexors (agonists) are holding the leg up. ○ Static Passive flexibility: The ability to hold a stretch using body weight or some other external force. Using the example above, holding your leg out in front of you and resting it on a chair. The

	<p>endurance</p> <ul style="list-style-type: none"> ▪ Frequency = minimum of 3 days/week ▪ Intensity = exercising in target heart-rate zone ▪ Time = minimum of 15 minutes rate <p>○ Progression for cardiorespiratory endurance</p> <ul style="list-style-type: none"> ▪ Begin at a frequency of 3 days/week and work up to no more than 6 days/week ▪ Begin at an intensity near target heart rate threshold and work up to 80% of target heart rate ▪ Begin at 15 minutes and work up to 60 minutes <p>○ Specificity for cardiorespiratory endurance</p> <ul style="list-style-type: none"> ▪ Perform aerobic (with oxygen) activities for at least fifteen minutes without developing an oxygen debt ▪ Aerobic activities include, but are not limited to brisk walking, jogging, bicycling and swimming 	<p>longer periods of time or stretching beyond the usual point of flexion or extension.</p> <ul style="list-style-type: none"> • Principle of specificity: Only those body parts, muscles or systems involved in a workout will be the ones to experience training. Specificity may apply to muscle groups, energy systems or specific movements and activities. Examples: <ul style="list-style-type: none"> ○ Weight training in the upper body will improve arm, shoulder, and back strength but activities in the lower body such as squats or lunges will not improve ○ A swimmer that swims several times a week will gain cardiorespiratory endurance but may lack in flexibility benefits ○ If a baseball pitcher wants to work specifically on his accuracy he will target this skill by trying to hit a specific target. If he wants to work on his speed he will target the throwing phase of the pitch and somehow measure the speed of his pitch. • Principle of progression: The increase in exercise to make it more demanding once the body has adapted to the exercise being done before to continue improvements <ul style="list-style-type: none"> ○ When overload is no longer sufficient, adjustments must be made for fitness level improvement. Training status will benefit by gradually increasing the load that the body is working against. Incorrect overload may bring injury and demotivation due to over-zealous targets. ○ Changes to frequency, intensity or amount of time in the exercise program. 	<p>quadriceps are not required to hold the extended position.</p> <ul style="list-style-type: none"> • Teach the physiological principles of warm-up, cool down, overload, specificity and progression to improve performance <p>Example:</p> <ul style="list-style-type: none"> ○ Warm ups: When a muscle is tight, range of motion can be compromised. Lack of range of motion causes changes in movement patterns that limit quality of performance and ultimately create injury risk. A tight muscle is a weak muscle. An overstretched or long muscle is also a weak muscle. This conundrum is known as the length-tension relationship. This rule says that a muscle must be at mid-length (or on a slight stretch) to generate optimal force.
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Resources:

SHAPE America National Standards and Grade-Level Outcomes; http://www.teachpe.com/fitness/training_principles.php
http://www.heart.org/HEARTORG/HealthyLiving/PhysicalActivity/FitnessBasics/Warm-Up-Cool-Down_UCM_430168_Article.jsp#.V7G32bf6vcs;

VA SOL Standard: 8.1 The student will apply and demonstrate movement concepts and skills in modified versions of various game/sport, rhythmic and recreational activities.

ENDURING UNDERSTANDINGS

- Technology can be used to provide opportunities to analyze movement, monitor progress toward motor skill and fitness goals, and assess learning/improvement.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.1 g) Demonstrate use of technology tools to analyze and improve performance.</p> <p>Suggested Learning Targets:</p> <p>I can self-monitor the heart rate during exercise and summarize my performance to my teacher.</p> <p>I can conduct a self-assessment of a physical fitness activity using various types of assessment equipment and give my conclusions to a peer.</p> <p>I can incorporate technology (specific tool i.e. iPads, personal device) to enhance knowledge, improve performance and provide feedback for self-assessing and application for the development of a personal fitness plan.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Analyze skill/activity performance Student Actions: <ul style="list-style-type: none"> ○ Pose/Define Problems ○ Collaborate ○ Conclude ○ Practice ○ Refine <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Chose a physical activity that can also be done outside of school. Perform the activity over a period of time (e.g., one week). Use at least one technology tool to help analyze the performance of the physical activity to determine if there was improvement. Reflect on the value of the technology tool in relationship to monitoring improvement of the physical activity. 	<ul style="list-style-type: none"> • Pedometers: Tools that show students how much they have moved during their physical education lesson. They can be used to set personal targets for potential improvement in each lesson. • Heart rate monitors: Show students what it really means to be physically active. Students wear a heart rate monitor during a physical education class, then download the data and print off their HR activity during the lesson. They can use this information to show how much physical activity they participate in with an elevated heart rate. They can also set goals for increasing the duration at which they maintain an elevated heart rate. • Computers: Internet resources such as pictures, videos and proper instruction on hundreds of exercises which can help individuals plan workouts or check their form when following recommended programs on their own. An important source of health and fitness-related information but validity of information depends on the source. • Digital cameras and iPads: Methods of video recording for self/peer assessment. • Active video games: Players physically interact via arm, leg or whole-body movements with images onscreen in a variety of activities. • Smartphone applications: Applications (Apps) for phones that track activity. 	<ul style="list-style-type: none"> • Specific lessons that teach students how to independently participate in physical activity monitoring (e.g., through pedometers or activity logs) and regulate physical activity behavior by using appropriate fitness and movement principals. • Class discussion and demonstration of technology in outdoor pursuits and how they improve the performance of the activity (e.g., use of a GPS device when hiking or backpacking). • Student use of technology to record and evaluate activities for the purpose of evaluation and improvement. • Monitor target heart rates during physical activities. • Class discussions on technology available such as, fitness bands, apps, interactive video games, for fitness monitoring or improvement.

Resources:

SHAPE America National Standards and Grade-Level Outcomes: <http://www.humankinetics.com/excerpts/excerpts/using-technology-to-promote-physical-activity>

VA SOL Standard: 8.1 The student will apply and demonstrate movement concepts and skills in modified versions of various game/sport, rhythmic and recreational activities.

ENDURING UNDERSTANDINGS

- Skill-related fitness components are necessary for successfully performing the skills in physical activities.
- An improvement in the ability to react quickly, apply significant force rapidly in the appropriate direction, and to redirect that force if needed is the ultimate goal of a program to improve speed, agility and quickness.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.1. h) Describe how movement is created in activities that involve agility, power, coordination, reaction time, speed, force, motion, rotation and energy.</p> <p>Suggested Learning Targets:</p> <p>I can describe the characteristics of movement that ensure a successful serve in (specific activity i.e., volleyball) and explain it to my partner.</p> <p>I can describe how movement in created a (specific activity i.e., golf putt) and explain it through an exit ticket.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Questioning to check for understanding: Example – What is the difference between health-related fitness and skill-related fitness? • Written: List your favorite sports or recreational activities, describe the specific skill-related components needed for it and explain why they are needed. Give examples. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Define and give examples of how movement is created in activities that involve agility, power, coordination, reaction time, speed, force, motion, rotation, and energy. 	<ul style="list-style-type: none"> • Time: When to start motion for contacting an object (speed, pathway, distance). • Space: Directing an object to an intended location (batting, volleyball drive/hit/serve and lead pass). • Flow: Change of direction, acceleration and deceleration. • Force: Speed and effect needed to direct objects (batting, throwing, kicking, and pushing). • Agility: Ability to change and control the direction and position of the body while maintaining a constant, rapid motion (changing directions) • Coordination: Ability to use the sense together with body parts during movement (hand-eye, eye-foot). • Power: Ability to move body parts swiftly while apply the maximum force of muscles; combination of speed and muscular strength. • Reaction time: Ability to reach or respond quickly to what is heard, seen or felt (stealing a base, starting from a start signal). • Speed: Ability to move body or parts of body as rapidly as possible 	<ul style="list-style-type: none"> • Class Discussion – Examples: <ul style="list-style-type: none"> ○ Objects will spin in the direction the force is applied ○ The weight of a body segment or the entire body times the speed of acceleration determines the force Example: In throwing a ball, the force applied to the ball is equal to the weight of the arm times the speed of acceleration of the arm. • Specific lessons on individual or several of the skill-related fitness components demonstrated through motor skills. Example: <ul style="list-style-type: none"> ○ Application of force to control distance of an object in a target sport (specific activity i.e., golf putt) ○ Rotation: Golf swing, throwing a baseball, downhill skiing (turning left and right)

Resources:

SHAPE America National Standards and Grade-Level Outcomes; <http://www.teachpe.com/fitness/skill.php>

VA SOL Standard: 8.1 The student will apply and demonstrate movement concepts and skills in modified versions of various game/sport, rhythmic and recreational activities.

ENDURING UNDERSTANDINGS

- 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 increases.
- Balance does not work in isolation it is a component of all movements, whether dominated by strength, speed, flexibility, or endurance.
- When the line of gravity is centrally located in the base of support, balance should be secure.

<p>VDOE Standard(s) Student Friendly Language What will the student know and be able to do?</p>	<p>SUGGESTED/SAMPLE ASSESSMENTS</p>	<p>Terms (Vocabulary) and Content Information</p>	<p>SUGGESTED/SAMPLE ACTIVITIES</p>
<p>8.1 i) Explain the role of balance (center of support, center of gravity, planes of movement) in creating movement.</p> <p>Suggested Learning Targets:</p> <p>I can explain the role of balance in the movement skill (specific movement: e.g., running, dodging, jumping) to my partner.</p> <p>I can explain the principles of stability in the actions of a baseball catcher through my journal writing.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Oral: Partner discussions – Example: What plane does flexion and extension occur? (Sagittal) • Written: Gathering and organizing information about the biomechanical principles of different movements. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Explain the role of balance in the following movements: <ul style="list-style-type: none"> ○ Running ○ Hopping ○ Jumping ○ Dodging • Apply the principles of stability to a baseball catcher: <p>Example:</p> <ul style="list-style-type: none"> ○ Bends his knees to lower his center of gravity. ○ Has knees apart (to increase base of support) in the direction of the force coming towards him. ○ Uses a glove (> surface area to receive force) and brings hand in towards the body (force reception). 	<ul style="list-style-type: none"> • Planes of movement: <ul style="list-style-type: none"> ○ Sagittal Plane: Passes through the body front to back, dividing it into left and right. Movements in this plane are the up and down movements of flexion and extension. ○ Frontal Plane: Divides the body into front and back. Movements in this plane are sideway movements, called abduction and adduction. ○ Transverse Plane: Divides the body into top and bottom. Movements in this plane are rotational in nature, such as internal and external rotation, pronation and supination. • Center of gravity is the point where the three planes intersect. It is the point of exact center where the body freely rotates and the body weight is equal on all sides. Center of gravity can change positions depending on the actions of the body. • Base of support is the area of contact between the body and the support surface. • Dynamic balance is maintaining control and balance while moving. 	<ul style="list-style-type: none"> • Discussions on the planes of movement. <p>Example: Sagittal or Lateral plane – Vertical plane passing from the rear (posterior) to the front (anterior), dividing the body into left and right halves. Most sport and exercise movements that are almost two-dimensional, such as running, long jumping, biking, and rowing, take place in this plane.</p> • Practice stabilizing skills that require balance, maintaining equilibrium and gaining and maintaining postural control. <p>Example: Walking lunge with a plate held overhead when moving through the up position of the lunge then bringing plate to one side in coordination with the downward movement of the lunge.</p>

Resources:

SHAPE America National Standards and Grade-Level Outcomes; <http://www.yogajournal.com/article/practice-section/plumb-perfect/>;
[http://www.heart.org/HEARTORG/HealthyLiving/PhysicalActivity/FitnessBasics/Balance-Exercise UCM_464001_Article.jsp#.V6eFYP36upo](http://www.heart.org/HEARTORG/HealthyLiving/PhysicalActivity/FitnessBasics/Balance-Exercise_UCM_464001_Article.jsp#.V6eFYP36upo);
<http://www.humankinetics.com/excerpts/excerpts/five-factors-determine-stability-and-mobility>
[https://www.google.com/search?q=biomechanical+principles+\(e.g.,+center+of+gravity,+base+of+support\)&biw=1536&bih=696&tbm=isch&tbo=u&source=univ&sa=X&ved=0ahUKEwjU7_Kf6qzOAhWDbiYKHReiDG0QsAQIKQ&dpr=1.25](https://www.google.com/search?q=biomechanical+principles+(e.g.,+center+of+gravity,+base+of+support)&biw=1536&bih=696&tbm=isch&tbo=u&source=univ&sa=X&ved=0ahUKEwjU7_Kf6qzOAhWDbiYKHReiDG0QsAQIKQ&dpr=1.25)
<http://www.teachpe.com/anatomy/movements.php>;

VA SOL Standard: 8.1 The student will apply and demonstrate movement concepts and skills in modified versions of various game/sport, rhythmic and recreational activities.

ENDURING UNDERSTANDINGS

- Self/peer assessments allow students to detect, analyze, and correct errors in personal movement patterns.
- Feedback motivates, reinforces, and speeds learning.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.1 j) Analyze movement performance and utilize feedback to learn or improve the movement skills of self and others.</p> <p>Suggested Learning Targets:</p> <p>I can analyse (specific movement: e.g., long jump, basketball shooting, golf swing) critically and suggest improvements for practice at a higher level in my (selected assessment product: i.e., log, journal or portfolio).</p> <p>I can detect, analyze and correct errors and apply to refine (specific movement i.e. tennis forehand shot) through a video self-assessment.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Teacher Observation: Students utilizing internal and external feedback. • Reflective self-paced task sheets: Example – Students are given a self-paced task sheet for the improvement of a skill or skill combinations. (e.g., basketball shooting tasks). Students reflect and self-assess how effective the self-paced task was. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Analyze the validity and accuracy of a (specific movement skill i.e. long jump) through a self/peer assessment. <ul style="list-style-type: none"> ○ Practice. ○ Self/peer assessment – Understanding of skill check list, rubric or verbal teacher cues broken down into phases. ○ Correction. ○ Practice at higher level. ○ Re-assess. 	<ul style="list-style-type: none"> • Considerations when incorporating self/peer-assessments: <ul style="list-style-type: none"> ○ Explain the expectations and benefits of engaging in a peer review process. ○ Be prepared to give feedback on students' feedback to each other. Display some examples of feedback of varying quality and discuss which kind of feedback is useful and why. ○ Set time limits and guidelines for the feedback process. ○ Listen to group feedback discussions and provide guidance and input when necessary. ○ Student familiarity and ownership of criteria tend to enhance peer assessment validity; therefore, involve students in a discussion of the criteria used. • Movement skill phases may not all fit neatly into three phases and additional phases may be devised or added. Example: The long jump may also be divided into: preliminary movements; run-up; take-off; and landing. 	<ul style="list-style-type: none"> • When analyzing movements, teach how to divide the movement performance into phases: Three phases – <ul style="list-style-type: none"> ○ Preparatory: Movements that prepare such as, backswing in golf or tennis. ○ Execution: <ul style="list-style-type: none"> ▪ Force-producing movements such as, the forward motion of the tennis forehand shot. ▪ Critical instant, the point of contact or the release such as, moment of contact in the tennis serve or the take-off in the long jump. ○ Follow-through: Body movements after the execution where the movement slows down such as, the high leg lift after kicking a goal or the golf club after the ball is struck. ○ Example of braking down a movement skill into phases: Long Jump – <ul style="list-style-type: none"> ▪ Preparatory: The length and speed of the run to the take-off board. ▪ Execution: Take-off and flight through the air. ▪ Follow-through: The landing.
<p>Resources: SHAPE America National Standards and Grade-Level Outcomes; http://sydney.edu.au/education_social_work/groupwork/docs/SelfPeerAssessment.pdf</p>			

VA SOL Standard: 8.2 The student will apply movement principles and concepts and apply knowledge of major body structures to explain how body systems interact and respond to physical activity and movement.

ENDURING UNDERSTANDINGS

- Each of our body systems are interconnected and dependent on each other.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.2 a) Explain how body systems interact with one another during physical activity.</p> <p>Suggested Learning Targets:</p> <p>I can explain how the skeletal-muscular systems work together in connection to physical activity through a graphic organizer.</p> <p>I can explain how the respiratory-cardiovascular systems work together in connection to physical activity through a summary paragraph.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Questioning to check for understanding: Example – When you get excited, what system increases the heart rate? (Answer: Nervous) <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Choose at least three body systems and explain their connection to physical activity. Example: Skeletal System makes the red blood cells that carry oxygen to all cells. The respiratory system brings in the oxygen that is carried on the red blood cells and carries the CO₂ out of the body which is performed by the circulatory system. The circulatory system needs the respiratory system for gas exchange. The muscles need oxygen to move. 	<ul style="list-style-type: none"> • Examples of systems interacting together: <ul style="list-style-type: none"> ○ Cardiovascular system: Exercise improves the strength and efficiency of the heart, which is a muscle and requires exercise. It also improves the circulation. The circulatory system delivers oxygenated blood to all parts of the body. Therefore, all the body's organs benefit from an efficient cardiovascular system. ○ Respiratory system: Exercise increases the efficiency of the lungs which are responsible for oxygenating the blood before it circulates around the body. This enables the bones of the skeletal system and the muscles of the muscular system the ability to do their work. The digestive system provides nutrients to facilitate breathing and glucose plus oxygen produces water, carbon dioxide, and energy. The nervous system uses this energy to enable the brain to think and control all the other systems. ○ Endocrine system: Vigorous exercise increases the release of endorphins, which improve the mood and induce a feeling of calmness. Exercise also regulates insulin in the blood and lessens the incidence of Type-2 diabetes. 	<ul style="list-style-type: none"> • Discussions on the connections between systems. Examples: <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 skeletal system is dependent on the digestive system for increase in size and strength. ○ The muscular system needs the respiratory and circulatory systems to supply energy in the form of oxygen and nutrients. • Physical activities that make connections to different systems working together. • Physical activities that cause the body to change and record or talk about what body systems cause or have a part in the changes.
<p>Resources: SHAPE America National Standards and Grade-Level Outcomes; http://fitness.mercola.com/sites/fitness/archive/2013/09/20/exercise-health-benefits.aspx; http://www.livestrong.com/article/302607-how-do-the-digestive-respiratory-systems-work-together/; http://edquestscience.com/pdf/LS-CS-3notes.pdf; http://kassar-hsc-pdhpe.wikispaces.com/file/view/Preliminary+Core+2-+Body+in+Motion.pdf</p>			

VA SOL Standard: 8.2 The student will apply movement principles and concepts and apply knowledge of major body structures to explain how body systems interact and respond to physical activity and movement.

ENDURING UNDERSTANDINGS

- When the body is moving or producing movement it obeys the same physical laws that apply to all types of motion.
- Humans move through a system of levers that cannot be changed but can be utilized more efficiently.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.2 b) Identify and describe biomechanical principles (e.g., spin, rebound, effects of levers) to understand skillful movements.</p> <p>Suggested Learning Targets:</p> <p>I can describe how a ball will rebound depending on the force used and explain its impact on performance to a partner.</p> <p>I can apply and describe the effects of levers when (specific activity i.e. striking in golf) and explain it through an exit ticket.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Pick a movement (self/group) and list the biomechanical principles associated with the movement. Example: Striking in golf: <ul style="list-style-type: none"> ○ Newton's Laws: force ○ Levers ○ Momentum ○ Impact ○ Stability <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Students will list various biomechanical principles and describe how these principles apply to physical movement performance. 	<ul style="list-style-type: none"> • Force: Absorption, impact of one or more force, speed of objects and generation of force. • Torque: How to generate force. • Levers: Rotate about an axis as a result of force being applied to cause its movement against a resistance or weight. In the body: <ul style="list-style-type: none"> ○ Bones represent the bars. ○ Joints are the axis. ○ Muscles contract to apply force. • Air Resistance: Impact on an object, shape of the object, impact on the flight. • Trajectory/Projection: Changing the flight path, angles, and force applied. 	<ul style="list-style-type: none"> • Participate in and discuss activities that demonstrate spin, rebound and effects of levers. Example: <ul style="list-style-type: none"> ○ In throwing, the angular motion of the levers (bones) of the body (trunk, shoulder, elbow and wrist) is used to give linear motion to the ball when it is released. ○ Muscles produce force to start, stop, accelerate, decelerate, and change the direction of motion in running activities. ○ When dribbling a ball with a light force, the rebound will be small but dribbling with a heavy force will cause the rebound to be large.

Resources:

SHAPE America National Standards and Grade-Level Outcomes; Sports Science Resources Online

http://www.profedf.ufpr.br/rodackibiomecanica_arquivos/Books/Introduction%20to%20Sports%20Biomechanics.pdf;

<http://www.hhp.txstate.edu/hper/faculty/pankey/bioprin/htm/index.html>;

<http://www.slideshare.net/ryanm9/year-11-biomechanics-with-levers-force-summation>;

<http://www.teachpe.com/biomechanics/angular-motion/>;

<http://www.teachpe.com/biomechanics/forces/>

VA SOL Standard: 8.2 The student will apply movement principles and concepts and apply knowledge of major body structures to explain how body systems interact and respond to physical activity and movement.

ENDURING UNDERSTANDINGS

- Offense involves the strategies or players that attempt to score in a game.
- Defense involves the strategies or players that prevent the other team from scoring.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.2 c) Explain how offensive and defensive tactics and strategies are used to gain an advantage offensively and defensively.</p> <p>Suggested Learning Targets:</p> <p>I can serve to open spaces on the (specific activity: e.g., tennis, badminton, volleyball) court and explain its advantage offensively to a partner.</p> <p>I can compare and contrast the use of offensive and defense strategies in (specific activity i.e. basketball) and demonstrate it through a diagram.</p> <p>I can apply appropriate offensive and defensive tactics at the right time and in the right situation and write a reflective paragraph on how I demonstrated this in (specific activity).</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Peer Assessment: Students use checklists to assess modified games to identify how students are able to apply movement concepts. Example – Defensive strategies (e.g., moving in relationship to others, covering the space/court effectively, and responding to change of pace). • Written: Cognitive knowledge of offensive and defensive strategies and tactics for selected activity(s). <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Pick a game/activity and explain the tactics and strategies used to gain an advantage offensively and defensively. 	<ul style="list-style-type: none"> • Strategies and tactics within game play: <ul style="list-style-type: none"> ○ Moving into open space ○ Movement to get open: pick and roll, give and go, screens and fakes ○ Man-to-man zone defense ○ Defensive positioning ○ Speeding up, slowing down to intercept an object • Offensive Strategy: <ul style="list-style-type: none"> Tactic – <ul style="list-style-type: none"> ○ Possession of ball/object ○ Attempting to move in the direction of the goal ○ Moving and creating open spaces ○ Attacking the goal • Defensive Strategy: <ul style="list-style-type: none"> Tactic – <ul style="list-style-type: none"> ○ Staying between the offensive player and the goal ○ Use hands, feet, stick, or body to prevent a pass or scoring attempt ○ Protecting a goal (e.g., net, end zone) ○ Regaining possession of an object 	<ul style="list-style-type: none"> • Groups assigned to different stations with scenarios to create or select strategies/tactics to use. • Modified activities/games where one group stays on defense for a specific time period, while the other group stays on offense. At specific time intervals, the defensive group changes their system, switching back and forth between person-to-person and zone defense systems. Groups switch from offense to defense. Students are questioned on the movement concepts related to the situation. (Specific activity i.e. basketball). • In net game serving, mark the position each opponent would occupy during service reception. Students practice serving to the open spaces. Afterwards discuss with the class the importance of: <ul style="list-style-type: none"> ○ Looking for open spaces on the court (e.g., the best place to serve to) ○ Determining the relationship among players on the opposing team

Resources:

SHAPE America National Standards and Grade-Level Outcomes; <http://files.eric.ed.gov/fulltext/EJ795561.pdf>;
http://hooptactics.com/Free_Area_Offensive_Basketball_Strategies/; http://www.soccer-training-info.com/soccer_strategy_tactics.asp;
<http://learntocoachbasketball.com/sign-up/coaching-course/skill-development/level-i-tactical-skills>; <http://www.tennistips.org/tennis-technique.html>;
<http://www.strength-and-power-for-volleyball.com/volleyball-strategies.html>; http://www.usultimate.org/assets/1/Page/Teaching%20Ultimate_beta3.pdf
<http://youth-sports-drills-cdn.teamsnap.com/tips1.pdf>; <http://www.ducksters.com/sports/footballstrategy.php>

VA SOL Standard: 8.2 The student will apply movement principles and concepts and apply knowledge of major body structures to explain how body systems interact and respond to physical activity and movement.

ENDURING UNDERSTANDINGS

- The ability to analyze components of a skill can result in improvement.
- Problem-solving skills related to movement lead to skill acquisition.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES									
<p>8.2 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.</p> <p>Suggested Learning Targets:</p> <p>I can analyze the components of agility in (specific activity i.e. soccer) in a summary paragraph.</p> <p>I can analyze force in a (specific activity i.e. softball throw) in my (selected assessment product: i.e., log, journal or portfolio).</p>	<p>Assessment for Learning</p> <ul style="list-style-type: none"> • Questioning to check for understanding: Example – <ul style="list-style-type: none"> ○ What does release angle have to do with force? ○ How is force transferred at the point of the take-off board in the running long jump? • Written: Research movement concepts in skills/activities. Example – Research why leaning back creates more throwing force than standing straight and why a 40 degree to 43 degree angle (between 1 and 2 o'clock) would result in more distance than 15 degree to 20 degree angle (between 2 and 3 o'clock). Example answer – The longer the lever, from natural body length or the body movements to the extended backward position, the greater the arc through which it accelerates and thus the greater the speed given to the thrown object. <p>Assessment of Learning</p> <ul style="list-style-type: none"> • Develop a chart that gives a definition of agility, power, coordination, reaction time, speed, force, motion, rotation and energy; and give examples of general physical activities and sport-specific skill activities. Example – Using agility and power: <table border="1" data-bbox="485 1263 1178 1455"> <thead> <tr> <th>Vocabulary</th> <th>General Activity</th> <th>Sport-Specific</th> </tr> </thead> <tbody> <tr> <td>Agility: Changing directions rapidly</td> <td>Shuttle-run test</td> <td>soccer footwork basketball (person-to-person defense)</td> </tr> <tr> <td>Power: Moving body swiftly while applying force of muscles.</td> <td>Medicine ball toss</td> <td>Power lift (as in weightlifting) Running long jump</td> </tr> </tbody> </table>	Vocabulary	General Activity	Sport-Specific	Agility: Changing directions rapidly	Shuttle-run test	soccer footwork basketball (person-to-person defense)	Power: Moving body swiftly while applying force of muscles.	Medicine ball toss	Power lift (as in weightlifting) Running long jump	<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 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 lay-up or a football player out running 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: Reach or respond quickly to what is seen, hear or felt. An example is stealing a base in baseball. 	<ul style="list-style-type: none"> • For each physical activity/game performed in class, students will identify the movement concepts of agility, power, coordination, reaction time, speed, force, motion, rotation, and energy that connects with that particular activity or game. *Refer to examples under content information. • Teach the components of training for the different movement concepts. Example – Key components of agility training: <ul style="list-style-type: none"> ○ Body control and awareness ○ Recognition and awareness ○ Starting and first step ○ Acceleration ○ Footwork ○ Change of direction ○ Stopping • Teach the components during game activities. Example – Soccer <ul style="list-style-type: none"> ○ Soccer requires effective acceleration, top-end speed, deceleration and direction change
Vocabulary	General Activity	Sport-Specific										
Agility: Changing directions rapidly	Shuttle-run test	soccer footwork basketball (person-to-person defense)										
Power: Moving body swiftly while applying force of muscles.	Medicine ball toss	Power lift (as in weightlifting) Running long jump										

Resources:

SHAPE America National Standards and Grade-Level Outcomes; <http://www.humankinetics.com/excerpts/excerpts/the-importance-of-health-fitness-and-wellness>;
<http://www.livestrong.com/article/138612-exercises-developing-fine-motor-skills/>;
<http://www.humankinetics.com/news-and-excerpts/news-and-excerpts/methods-of-developing-speed-and-agility>;
<https://prezi.com/mpubrzokvzh/speed-agility-and-quickness-training/>

VA SOL Standard: 8.2 The student will apply movement principles and concepts and apply knowledge of major body structures to explain how body systems interact and respond to physical activity and movement.

ENDURING UNDERSTANDINGS

- Feedback provided to others about skills should be concise and should directly relate to the assessment provided.
- Feedback is only valuable if it is acted upon.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.2 e) Analyze movement progressions (practice, self or peer assess, correct, practice at a higher level and reassess) of a specific skill, and utilize feedback to improve the movement skills of self and/or others.</p> <p>Suggested Learning Targets:</p> <p>I can analyze the movement progressions of a (specific activity i.e. tennis serve) in my (selected assessment product: i.e., log, journal or portfolio).</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Self/peer assessments: Students assess each easy-to-difficult task sequence that is based on different models of progression. Example – Using the whole tennis serving motion, analyze at different distances from the net. <ul style="list-style-type: none"> ○ Eighteen feet in front of the baseline. ○ Twelve feet in front of the baseline. ○ Six feet in front of the baseline. • Checklist to record/self-assess individual skill performance. • Video: Analyze the critical skill elements of manipulative skill sequences and make suggestions for skill improvement. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Students videotaping peers and analyzing the components of a specific skill. Correct and practice (specific activity i.e. tennis serve) then videotape each other again and reassess. Example: Videotaping of a tennis serve. <ul style="list-style-type: none"> ○ Analysis of videotapes relative to the five components of the serving motion: (a) grip and stance, (b) ball toss, (c) racket preparation, (d) arm extension and (e) follow through. ○ Rubric/checklist provided to score each component. ○ Correct and practice the serve then videotape 	<ul style="list-style-type: none"> • Progression: Presenting content in an easy-to-difficult sequence, is a basic instructional principle that: <ul style="list-style-type: none"> ○ Enhances student success and achievement ○ Enhances learners' efficacy perceptions and motivation ○ Impacts students' feelings of efficacy and competence and facilitates active engagement patterns • Observation Strategies: <ul style="list-style-type: none"> ○ Observe from different angles (e.g., side, front and back). This gives a number of different perspectives. If the movement covers some distance or moves in different directions, observation should be from various points. ○ View the movement more than once. First look at the whole movement then focus on the different parts of the movement. ○ Look for the cause of ineffective movement and not the symptoms. Example – If a step back is taken after a landing on a back somersault, do not comment on the landing but instead comment on the reason for the poor landing due to not tucking tightly or opening out to soon. 	<ul style="list-style-type: none"> • Teach easy-to-difficult task sequences based on different models of progression by having students at each level practice, self/peer assess, correct, practice at a higher level and reassess. Example: When teaching baseball or softball batting, learners practice the whole swing in a series of tasks where the difficulty is manipulated by the movement of the ball. First hitting a stationary ball, then a slowly moving ball, then balls thrown faster. • Teaching sequence of tasks in parts. Students will analyze self/peer each part, correct, practice and reassess. Example: Tennis serve, part progression – <ul style="list-style-type: none"> ○ Serving toss ○ Tossing and hitting, beginning with the racket in "back-scratch" position ○ Tossing and hitting, beginning with the racket held near the hip ○ Whole serving motion

	<p>each other again and reassess.</p> <ul style="list-style-type: none">○ Reflect on how this improved their tennis serve and how effective was the process in comparison to the easy-to-difficult task sequence that is based on different models of progression.		
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Resources:
SHAPE America National Standards and Grade-Level Outcomes; http://www.teachpe.com/sports_psychology/teaching.php

VA SOL Standard: 8.2 The student will apply movement principles and concepts and apply knowledge of major body structures to explain how body systems interact and respond to physical activity and movement.

ENDURING UNDERSTANDINGS

- Physical activity affects metabolism and all major body systems.
- Physical activity affects brain chemistry and cognitive functioning contributing to emotional stability, physical health and the ability to learn.
- By staying active, you challenge your heart, lungs, muscles, tendons, and bones to adapt to the stress of whatever exercise/activity you do and that adaptation will transfer to help you with all physical movement.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.2 f) Describe effects of exercise/activity on physical movement, body systems and brain development.</p> <p>Suggested Learning Targets:</p> <p>I can describe the effects of (specific activity i.e., weight lifting) on the muscular and skeletal systems to a peer.</p> <p>I can describe the effects of aerobic activity on the (i.e., cardiorespiratory system, muscular system or skeletal system) in a graphic organizer.</p> <p>I can describe the effects of exercise/activity on the brain through an exit ticket.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Questioning to check for understanding • Teacher observation <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Pick an exercise/activity and describe the effects it has on physical movement, body systems and brain development. 	<ul style="list-style-type: none"> • Effects of exercise/activity on the brain: <ul style="list-style-type: none"> ○ Increased blood flow due to physical movement benefits the brain. Immediately, the brain cells will start functioning at a higher level making you feel more alert and awake during exercise and more focused afterward. Exercising also promotes the growth of new brain cells. These new brain cells help boost memory and learning. • Effects of exercise/activity on the body systems: <ul style="list-style-type: none"> ○ The body's structures and functions respond and adapt to physical stressors. For example, aerobic activity places a stress on the cardiorespiratory systems and muscular system requiring the lungs to move more air and the heart to pump more blood to be delivered to the working muscles so aerobic activity largely benefits the body's cardiovascular system. ○ Muscle/bone strengthening physical activity programs improve the muscular and skeletal systems. For example, weight lifting programs improve muscular strength and keep bone density from declining. 	<ul style="list-style-type: none"> • Make connections between exercise/activity on physical movement. Example – You have a lower risk of functional movement limitations than people who are inactive. • Make connections between exercise/activity on the brain. Example – Exercise encourages your brain to work at optimum capacity by causing your nerve cells to multiply, strengthening their interconnections and protecting them from damage. • Make connections between exercise/activity on body systems. Example – Heart rate increases and supplies more oxygenated blood to your muscles. The fitter you are, the more efficiently your heart can do this, allowing you to work out longer and harder. This increased efficiency will also reduce your resting heart rate. Your blood pressure will also decrease as a result of new blood vessels forming.

Resources:

SHAPE America National Standards and Grade-Level Outcomes; <http://edquestscience.com/pdf/LS-CS-3notes.pdf>;
<http://kassar-hsc-pdhpe.wikispaces.com/file/view/Preliminary+Core+2-+Body+in+Motion.pdf>

VA SOL Standard: 8.2 The student will apply movement principles and concepts and apply knowledge of major body structures to explain how body systems interact and respond to physical activity and movement.

ENDURING UNDERSTANDINGS

- Muscles exist in groupings that work to produce movements by muscle contraction.
- Muscles can only cause bones to move by contracting, which means a muscle can only move a bone in one direction.
- Muscles work in antagonistic pairs.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.2 g) Describe how muscles move bones to create paired movement by relaxing and contracting.</p> <p>Suggested Learning Targets:</p> <p>I can describe how muscles pull on bones to create movement in pairs by relaxing and contracting (e.g., hamstrings/quadriceps and biceps/triceps) and explain it to my teacher.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Oral: Peer discussions on bone and muscle movement. • Questioning to check for understanding. Examples – <ul style="list-style-type: none"> ○ What muscles work together to move the legs back and forth when running? Answer: Back of the legs, hamstrings. Front of the legs, quadriceps. ○ What muscles move the arms and shoulders forward and backward? Answer: Pectorals and Trapezius ○ Why do you use the triceps more than the biceps? Answer: We use our biceps more than our triceps due to lifting against gravity. ○ Why skeletal muscles are also called voluntary muscles? Answer: They are under conscious control. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Choose a paired muscle movement and describe how the 	<ul style="list-style-type: none"> • Bone and muscle vocabulary: <ul style="list-style-type: none"> ○ Bones: Rigid tissues that can support weight without bending. ○ Muscle: Tissue that can contract and relax to cause movement. ○ Tendons: Strong, fibrous, flexible connective tissue that joins muscles to bone. ○ Ligament: Strong, fibrous, elastic connective tissues that connect bones to each other in a joint. ○ Flexor: The muscle that contracts to cause a joint to bend. ○ Extensor: The muscle that contracts to cause the joint straighten. • Groupings of muscles according to actions: <ul style="list-style-type: none"> ○ Agonist: (Prime movers) Muscles that are associated with motion itself by shortening with contraction to produce a movement. Also referred to as prime movers since they are the muscles that are primarily responsible for generating the movement. ○ Antagonistic pairs: (Opposing muscles to agonists). One muscle contracts while the other relaxes. Example – The biceps flexes the elbow and the triceps extends it. ○ Synergist: (Produce motion similar to or in concert with agonist muscles) Muscles that act around a moveable joint to produce motion similar to or in concert with agonist muscles, allowing for a range of movements. Sometimes referred to as neutralizers because they help cancel out or neutralize, extra motion from the agonists to make sure that the force generated works within the desired plane of motion. 	<ul style="list-style-type: none"> • Discussions on paired movements. Examples: <ul style="list-style-type: none"> ○ Biceps and triceps: Example of an agonist/antagonist pair. <ul style="list-style-type: none"> ▪ During extension the triceps would act as the agonist while the biceps would act as the antagonist. These reverse during flexion. ▪ The lower arm is moved upwards (flexed) when the biceps muscle contracts and the triceps muscle is relaxed. It is moved downwards (extended) when the triceps is contracted and the biceps is relaxed. ▪ When the muscles contract, usually just one bone moves such as when the biceps in the arm contracts, the radius moves but the scapula does not. ○ Hamstrings and quadriceps: Control the movement of the lower leg.

	<p>muscles move the bones to create the movement by relaxing and contracting. Example – Bicep curl</p> <ul style="list-style-type: none"> ○ The agonist, the prime mover, will contract. This is the biceps. ○ The antagonist which is the triceps, relaxes (lengthens). ○ The synergist, which helps to stabilize the bone that is not moving, is the deltoid. 	<ul style="list-style-type: none"> ● Muscles can contract in the following ways: <ul style="list-style-type: none"> ○ Isometric contraction: A contraction in which no movement takes place, because the load on the muscle exceeds the tension generated by the contracting muscle. Occurs when a muscle attempts to push or pull an immovable object. ○ Isotonic contraction: A contraction in which movement does take place, because the tension generated by the contracting muscle exceeds the load on the muscle. Occurs when you use your muscles to successfully push or pull an object. ● Isotonic contractions are further divided into two types: <ul style="list-style-type: none"> ○ Concentric contraction: A contraction in which the muscle decreases in length (shortens) against an opposing load, such as lifting a weight up. ○ Eccentric contraction: A contraction in which the muscle increases in length (lengthens) as it resists a load, such as lowering a weight down in a slow, controlled fashion. During this contraction, the muscles that are shortening serve as the agonists and hence do all of the work. The muscles that are lengthening serve as the antagonists (and do all of the work). ● Ballistic movements: Movements initiated by muscle activity in one muscle group, continued in a 'coasting' period with no muscle activation and terminated by deceleration by the opposite muscle group or by passive tissue structures, such as ligaments. Many ballistic sports movements can be subdivided biomechanically into three phases. Each of these phases has specific biomechanical functions. Example – Jumping <ul style="list-style-type: none"> ○ Preparation: Lowering the body ○ Action: Raising the body ○ Recovery: Time in the air and controlled landing 	
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Resources:

SHAPE America National Standards and Grade-Level Outcomes

http://www.edu.xunta.es/ftpserver/portal/S_EUROPEAS/ED_FISICA2/MUSCLES.htm

<https://www.boundless.com/physiology/textbooks/boundless-anatomy-and-physiology-textbook/the-muscular-system-10/overview-of-the-muscular-system-103/how-skeletal-muscles-produce-movements-566-7388/>

VA SOL Standard: 8.2 The student will apply movement principles and concepts and apply knowledge of major body structures to explain how body systems interact and respond to physical activity and movement.

ENDURING UNDERSTANDINGS

- The main movements about the three axes (sagittal, frontal and vertical) for a particular joint are flexion and extension about the frontal axis, abduction and adduction about the sagittal axis, and medial and lateral (internal and external) rotation about the vertical (longitudinal) axes.
- Skeletal muscles play many roles in the body such as movement and joint stability.
- Ballistic movement (rapid movement of the limbs), as found in speed, agility, and quickness training, is created by a forced and rapid lengthening of a muscle immediately followed by a shortening of the muscle, creating an elastic “rubber-band-like” effect of energy release.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.2 h) Identify types of joints and associated movements, to include ball and socket (flexion/extension), pivot (rotation of one bone around another) and hinge (flexion/extension).</p> <p>Suggested Learning Targets:</p> <p>I can identify the type of joint and the associated muscle movement in (specific movement: i.e., kicking) and describe it to a peer.</p> <p>8.2 i) 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.</p> <p>Suggested Learning Targets:</p> <p>I can identify and explain the role of stabilizing muscles in movement (selected</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Questioning to check for understanding. Example – What enables a joint to be mobile? Answer: Joint mobility is the ability of a joint to move through its natural, effective range of motion and is further characterized as the balance of strength and flexibility regulating contrasting motions around a joint (i.e., flexion and extension). <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Choose a joint movement and describe how the muscles cause the movement. Include bones that the muscles attach to and move. Example – Kicking Quadriceps origin of attachment to the stationary bone is the femur. Origin of attachment to the moving bone is the tibia. When the quadriceps contract the tibia of the lower leg is pulled forward to straighten the knee joint. The hamstrings lengthen as the knee 	<ul style="list-style-type: none"> • Joint Types: <ul style="list-style-type: none"> ○ Hinge: Movement at the joint is flexion and extension. Examples are elbow and knee ○ Pivot: Rotation of one bone around another. Example is the top of the neck the atlas and axis bones ○ Ball and Socket: Movement at the joint is flexion, extension, adduction and abduction, internal and external rotation. Example: shoulder and hip • Flexion: Movement that decreases the joint angle, usually anteriorly in the sagittal plane. (Shoulder, knee, elbow, hip movement) • Extension: Movement that increases the joint angle, usually posteriorly in the sagittal plane. (Shoulder, knee, elbow, hip movement) • Abduction: Movement away the midline of the body, usually in the frontal plane. (Shoulder, wrist, hip movement) • Rotation (right or left): Right or left 	<ul style="list-style-type: none"> • Teach examples of: <ul style="list-style-type: none"> ○ Flexion, such as tuck jump, front dumbbell raise, bicep curl ○ Extension, such as straight leg deadlift, triceps press down, military press ○ Adduction, such as cable crossover pulldown, supine dumbbell flys ○ Abduction, such as straight arm dumbbell side raise, star jump • Teach how muscles are stabilizers. Examples – <ul style="list-style-type: none"> ○ Muscles contract to hold another body part immobile while another body part is moving, such as your wrist while doing a bench press or core muscles ○ A proximal joint (closes to) is stabilized while the distal (farthest away) joint performs the action, such as the shoulder joint being stabilized by flexors/extensors, abductors/adductors, and internal/external rotators, to perform an isolated elbow flexion • Teach examples of joint movements: <ul style="list-style-type: none"> ○ When a sprinter comes out of the blocks, proper range of motion during hip extension requires strength of the hip extensors, as well as the ability for the hip flexors to lengthen properly to allow for full hip extension. If there is an imbalance of strength and flexibility about the hip, range of motion will be compromised,

assessment product: i.e., log, journal or portfolio).	is strengthened.	rotation in the transverse plane. (Neck, trunk movement)	which will in turn affect force output and speed of movement.
Resources: SHAPE America National Standards and Grade-Level Outcomes; http://www.teachpe.com/gcse_anatomy/joints.php https://www.fix.com/blog/flexibility-mobility-stability/ ; http://www.exrx.net/Lists/Articulations.html ; http://www.mananatomy.com/basic-anatomy/actions-skeletal-muscles			

VA SOL Standard: 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.

ENDURING UNDERSTANDINGS

- Relevant fitness data helps a good planner know when and where to make adjustments to improve physical fitness.
- Fitness planning creates consistency and makes sure that individuals are getting the most out of their workouts by targeting all muscle groups as well as getting a good cardio workout.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.3 a) Self-assess level of physical activity and personal fitness on all components of health-related fitness, including body composition and develop a plan, including SMART (specific, measurable, attainable, realistic, timely) goals and action-plan strategies that include documentation of activities, mid-year and end-of-year assessments, reflection on progress and timeline for maintenance or improvement.</p> <p>Suggested Learning Targets:</p> <p>I can interpret and use fitness assessment data to determine areas to improve/maintain and create SMART goals for the development of a fitness plan in a fitness log/journal.</p> <p>I can develop a personal fitness plan for all the areas of health-related fitness to reach my SMART goals that includes action steps and appropriate activities, mid-year and end-of-year assessments, conditioning principles, timeline and reflection on progress.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Design Brief for Personal Fitness Plan Example: <ul style="list-style-type: none"> ○ Situation: What are you trying to develop? ○ Problem: What are the concerns? ○ Requirements: What individual requirements must be met to complete the task? ○ Resources: What resources will you use? ○ Evaluation: What is the criteria by which the task will be graded? • Peer assessment: Exchange fitness plan goals and evaluate if they are written as a correct SMART goal. • Written reflections of fitness data. Example: <ul style="list-style-type: none"> ○ An in-depth valid comparison of the data between two fitness test periods that determines if improvement has occurred and relevant examples of goals for future fitness testing. ○ An analysis of how the experience contributed to student understanding of self, others and/or course concepts of fitness. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Develop a personal fitness plan to address 	<ul style="list-style-type: none"> • Health-related fitness: Muscular Strength, muscular endurance, flexibility, cardiovascular endurance and body composition http://www.teachpe.com/fitness/health.php • FITT principle: Used to guide the development of fitness plans that cater for an individual's specific needs. <ul style="list-style-type: none"> ○ http://www.ode.state.or.us/teachlearn/subjects/pe/curriculum/fittprinciple.pdf ○ http://stretchcoach.com/articles/fitt-principle/ • SMART Goals http://www.unh.edu/hr/sites/unh.edu.hr/files/pdfs/SMART-Goals.pdf • Body Mass Index (BMI) https://www.cdc.gov/healthyweight/assessing/bmi/ • Training principles: http://www.teachpe.com/fitness/training_principles.php 	<ul style="list-style-type: none"> • Teach how to assess personal fitness status for each component of fitness and use information to develop individualized physical fitness goals. • Participate independently in the implementation of a personal fitness plan inside of school. • Complete a self-assessment of health-related fitness and interpret fitness data comparing individual scores to established Virginia Wellness fitness standards and BMI calculations to the CDC protocols and recommendations. • Create SMART goals for improvement of physical activities. • Analyze and evaluate a personal fitness plan in relation to the FITT principle, specificity, overload, and progression • Documentation of activities: http://kidshealth.org/en/teens/exercise-log.html?WT.ac=ctg#catdieting

	all the components of health-related fitness to improve/maintain, including intermediate (quarterly) and long-term SMART goals, action plan, reassessments and modify/alter/change plans as needed.		
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Resources:
SHAPE America National Standards and Grade-Level Outcomes; <http://www.askthetrainer.com/5-components-of-physical-fitness/>;
<http://www.humankinetics.com/excerpts/excerpts/the-importance-of-health-fitness-and-wellness>; http://www.teachpe.com/fitness/training_principles.php
<http://www.ode.state.or.us/teachlearn/subjects/pe/curriculum/fittprinciple.pdf>;
[http://www.heart.org/HEARTORG/HealthyLiving/PhysicalActivity/FitnessBasics/Types-of-Fitness UCM_462352_Article.jsp#.V6d9AP36upo](http://www.heart.org/HEARTORG/HealthyLiving/PhysicalActivity/FitnessBasics/Types-of-Fitness_UCM_462352_Article.jsp#.V6d9AP36upo);
[http://www.heart.org/HEARTORG/HealthyLiving/PhysicalActivity/StayingMotivatedforFitness/Identifying-Your-Fitness-Goals UCM_462202_Article.jsp#.V6eCrf36upo](http://www.heart.org/HEARTORG/HealthyLiving/PhysicalActivity/StayingMotivatedforFitness/Identifying-Your-Fitness-Goals_UCM_462202_Article.jsp#.V6eCrf36upo); <http://www.doe.virginia.gov/instruction/phised/index.shtml>;
http://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/english_bmi_calculator/bmi_calculator.html
<http://classroom.kidshealth.org/classroom/6to8/personal/fitness/fitness.pdf>; http://www.thephysicaleducator.com/resources/infographics/fitness_components/

VA SOL Standard: 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.

ENDURING UNDERSTANDINGS

- When amounts of physical activity need to be increased to meet personal goals, physical activity should be increased gradually over time because creating a small overload and waiting for the body to adapt and recover reduces the risk of injury.
- Combining the specificity, overload, and progression principles will ensure you're not only doing the right exercises but also doing them at a resistance, speed and frequency that will force your body to adapt.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.3 b) Define and describe specificity, overload, and progression in relation to improving personal fitness.</p> <p>Suggested Learning Targets:</p> <p>I can apply specificity, overload and progression to my personal program for improving personal fitness in my fitness log/journal.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Questioning to check for understanding: Examples– <ul style="list-style-type: none"> ○ Have included exercises that overload the body when compared to your previous workouts? ○ Have you recently increased the intensity, volume or frequency of these exercises? ○ Are you increasing the intensity, volume or frequency of these exercises progressively so you build upon previous workouts? • Assessing knowledge of specificity, overload and progression and how to apply the principles to student's own programs for improving personal fitness. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Develop a scenario where an individual uses specificity, overload, and progression in relation to improving their personal fitness. Create starting and long-term goals and describe the activities. Example: This individual currently does 150 minutes (2 hours and 30 minutes) a week of moderate-intensity activity. They want to work up to at least the equivalent of 300 minutes (5 hours) of moderate-intensity activity a week. They also want to shift some of that moderate intensity activity to 	<ul style="list-style-type: none"> • Specificity of Training: Refers to the type of exercise used to make specific changes in fitness. <ul style="list-style-type: none"> ○ Resistance work (high load, few reps) improves muscle strength. ○ Stretching exercises improve flexibility. ○ Resistance work (light load, many reps) improves muscle endurance. ○ Endurance exercises improve cardiorespiratory endurance. • Overload Principle: An overload is an intensity greater than encountered on a regularly daily basis. <ul style="list-style-type: none"> ○ Physiological changes can only occur from exercise when an overload is applied. ○ A small overload is to move from sedentary to fit whereas a greater overload is needed to move to higher levels of fitness. ○ It is recommended to first increase the number of minutes per session (duration) and the number of days per week (frequency) of moderate-intensity activity. Later, if desired, increase the intensity. 	<ul style="list-style-type: none"> • Teach how increasing the intensity, volume or frequency of an exercise will overload your body, forcing it to adapt. Example– <ul style="list-style-type: none"> ○ Increase Exercise Intensity: Increase the weight lifted or the speed you move an object or your body through space. ○ Increase Exercise Volume: Increase the number of repetitions, sets or distance you move an object or your body through space. ○ Increase Exercise Frequency: Increase the number of times you complete the same exercise in a week or month. • Teach how stressing a body part in a particular way develops that body part for the way it was stressed. Example– <ul style="list-style-type: none"> ○ If you exercise by running you will get better at running and if you exercise by bicycling you will get better at bicycling. This happens because whenever you exercise, your body's various systems (muscles, bones, nerves, lungs, and heart) adapt specifically to the stress of the exercise.

	<p>vigorous-intensity activity. The current 150 minutes a week includes:</p> <ul style="list-style-type: none"> ○ Thirty minutes of mowing the grass 1 day a week ○ Thirty minutes of brisk walking 4 days a week ○ Fifteen minutes of muscle-strengthening exercises 2 days a week <p>Increasing frequency and duration: Over a month, this individual adds walking on another weekday and gradually adds 15 minutes of moderate-intensity activity on each of the 5 walking days each week. This provides an additional 105 minutes (1 hour and 45 minutes) of moderate-intensity activity. Increasing intensity: Over the next month, they decide to replace some walking with jogging. Instead of walking 45 minutes, they walk for 30 minutes and jog for 15 minutes on each weekday, providing the equivalent of 300 minutes a week of moderate-intensity physical activity from walking and jogging.</p> <p>Reaching the goal: After these increases, this individual is doing a total of 180 minutes of moderate-intensity activity each week (walking and mowing) and also doing 75 minutes (1 hour and 15 minutes) of vigorous-intensity jogging. One minute of vigorous-intensity activity is about the same as 2 minutes of moderate intensity activity, so now they are doing the equivalent of 330 moderate-intensity minutes (5 hours and 30 minutes) a week. They have more than met their goal.</p>	<ul style="list-style-type: none"> ● Progression: Increasing the frequency, intensity, and duration of activities over a period of time will cause improvement in physical activity. <ul style="list-style-type: none"> ○ Improvement is rapid at first but will gradually level off. At high levels of activity, it may be necessary to change the type of activity performed. 	<ul style="list-style-type: none"> ○ Choose activities to add to your training program that are similar to your goal activity, but also different enough to reduce your risk for injury. For example, if you are a runner, consider water running versus adding an exercise-bike workout to your training routine. This activity not only mimics running but also provides resistance to running, which can increase the specific leg strength you need to make running on dry land easier.
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Resources:

SHAPE America National Standards and Grade-Level Outcomes; http://www.teachpe.com/fitness/training_principles.php

VA SOL Standard: 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.

ENDURING UNDERSTANDINGS

- There are a variety of tools that can be used to analyze fitness.
- Selection of a measurement method depends on the purpose of the evaluation and what is being measured.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.3 c) Demonstrate use of technology tools to assess, monitor/record, and improve personal fitness.</p> <p>Suggested Learning Targets:</p> <p>I can incorporate technology to enhance knowledge and improve the performance of my personal fitness.</p> <p>I can conduct self or peer assessment of a physical fitness activity using technology tools.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Online training logs <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Pick a technology tool and a fitness activity to monitor for a two week period. Create data by performing a pre-diagnostic test, a one week or mid-test and a two week or post-test. Reflect on the data and how the technology tool enhanced your ability to track improvement in the fitness activity that was being monitored. 	<ul style="list-style-type: none"> • Evaluation tools <ul style="list-style-type: none"> ○ Heart/pulse monitors: Used primarily to assess and monitor exercise intensity. Predict the energy expenditure associated with various durations, intensities and frequencies of physical activity. ○ Pedometers: Tracks distance and pace. ○ Computers: Internet resources such as pictures, videos and proper instruction on hundreds of exercises which can help individuals plan workouts or check their form when following recommended programs on their own. ○ Digital cameras and iPads: Methods of video recording for self/peer assessment. ○ Smartphone applications: Applications (Apps) for phones that track activity. 	<ul style="list-style-type: none"> • Students uses available technology (e.g. pedometers, heart rate monitors) to self- monitor aerobic intensity. • Teach available online tools designed for assessment and monitoring and others that are geared for record keeping and program development. Citing convenience of standardized forms and embedded fitness calculators to quickly determine training levels with less math errors. Visual aids and reports are another plus. • Use technology to record and evaluate activities for fitness improvement. • Use software that is available to all students both in and out of school • Monitoring and evaluation: <ul style="list-style-type: none"> ○ The routine collection and use of data to assess programs in achieving programmed objectives. ○ Collecting special data on a periodic or “as needed” basis to address issues that cannot be examined using routinely collected data such as overall impact.

Resources:

- SHAPE America National Standards and Grade-Level Outcomes
<http://www.humankinetics.com/excerpts/excerpts/using-technology-to-promote-physical-activity;>
<http://www.shapeamerica.org/standards/pe/upload/Grade-Level-Outcomes-for-K-12-Physical-Education.pdf>
<http://www.livestrong.com/article/95271-normal-pulse-rate-teenager/#ixzz1YV5chxVS;>

VA SOL Standard: 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.

ENDURING UNDERSTANDINGS

- Current guidelines for physical activity can be reached by building physical activities into your daily routine.
- Fitness improvement is based upon appropriate amounts of time set aside to implement physical activity.
- The use of technology provides daily fitness feedback and tracking and positively impacts behavior.

<p>VDOE Standard(s) Student Friendly Language What will the student know and be able to do?</p>	<p>SUGGESTED/SAMPLE ASSESSMENTS</p>	<p>Terms (Vocabulary) and Content Information</p>	<p>SUGGESTED/SAMPLE ACTIVITIES</p>
<p>8.3 d) Create and implement an activity plan to meet physical activity guidelines of 60 minutes a day that includes warm-up, cool down, and appropriate intensity levels.</p> <p>Suggested Learning Targets:</p> <p>I can identify ways of increasing physical activity in routine daily activities.</p> <p>I can perform an effective warm-up and cool down for (selected activity) and demonstrate it to my teacher.</p> <p>I can identify the in-school and community opportunities for activity and list them in an activity log.</p> <p>I can develop, implement, and reflect on the success of a physical activity plan that meets guidelines.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Questioning to check for understanding • Teacher observation: Demonstration of proper warm-up and cool down activities. • Activity Logs Example: <ul style="list-style-type: none"> ○ Log your personal amount of daily moderate to vigorous physical activity for a week. ○ Evaluate the amount of activity. • Written: Research where there are local parks, walking trails and recreational centers. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Create an activity plan. <ul style="list-style-type: none"> ○ 60 minutes a day of moderate to vigorous physical activity ○ Warm-up and cool down ○ Appropriate intensity levels ○ Reflection on progress and achievement of goals. 	<ul style="list-style-type: none"> • Warm-up/Cool down: <ul style="list-style-type: none"> ○ http://www.mayoclinic.org/healthy-lifestyle/fitness/in-depth/exercise/art-20045517 ○ http://www.heart.org/HEARTORG/HealthyLiving/PhysicalActivity/FitnessBasics/Warm-Up-Cool-Down_UCM_430168_Article.jsp#.WA_F37frvc • Warm-up: An effective warm-up increases both the respiratory rate and the heart rate. A warm-up should consist of light physical activity for 5 to 10 minutes of exercise, such as walking, slow jogging, knee lifts, arm circles or trunk rotations. Low-intensity movements that simulate movements to be used in the activity can also be included in the warm-up. A warm-up can consist of a lower intensity form of the exercise about to commence. • Cool down: This is the recovery period from a workout. Similarly, the stretching afterwards helps to lengthen and strengthen your muscles in preparation for the next workout. Purpose of the cool down includes: <ul style="list-style-type: none"> ○ Bringing the breathing, body temperature and heart rate back to normal slowly. ○ Allowing the blood to properly redistribute itself to the heart. This redistribution helps rid the muscles of lactic acid which can build up around the muscles during an aerobic workout. 	<ul style="list-style-type: none"> • Teach effective self-monitoring skills that incorporate opportunities for physical activity in and outside of school. Example: http://kidshealth.org/en/teens/easy-exercises.html?WT.ac=ctg#catdieting • Teach how to plan and implement daily flexibility, strength, endurance, and aerobic activities. • Teach lifetime sports, dance, aquatics or outdoor activities that cause engagement outside of the school day in physical activity. • Students design and implement a warm-up/cool down regimen for a self-selected physical activity. • Monitor heart rates during activities that cause students to move through the different intensity levels.

		<ul style="list-style-type: none"> • Static stretching: Consists of stretching a muscle (or group of muscles) to its farthest point and then maintaining or holding that position. Static stretching is not considered part of a warm-up routine. • Dynamic stretching: Involves moving parts of your body and gradually increasing reach, speed of movement or both. • Heart rate can be used for gauging exercise intensity due to the relationship between heart rate and oxygen consumption. • Training zones may be characterized by the level of intensity (using a RPE scale) or percentage of maximal heart rate range. *See additional information in 8.5.d • Becoming self-directed in the implementation of activity plan: <ul style="list-style-type: none"> ○ By demonstrating on-task independence of the plan ○ By developing a sound knowledge base for the purpose of the plan ○ By developing, carrying out and evaluating the activity plan ○ By balancing current and future needs ○ By striving against external forces that will inhibit execution of the plan 	
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Resources:

SHAPE America National Standards and Grade-Level Outcomes; <http://classroom.kidshealth.org/classroom/6to8/personal/fitness/fitness.pdf>;
http://www.heart.org/HEARTORG/HealthyLiving/PhysicalActivity/GettingActive/Create-Your-Own-Circuit-Workout-at-Home_UCM_484683_Article.jsp#.V6d6Yv36upo

VA SOL Standard: 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.

ENDURING UNDERSTANDINGS

- Heart rate is a useful indicator of the intensity of effort and body's physiological adaptation.
- Monitoring your heart rate will allow you to track the changes taking place in your cardiovascular system as you move towards aerobic fitness.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.3 e) Monitor heart rate before, during and after moderate to vigorous physical activity (MVPA).</p> <p>Suggested Learning Targets:</p> <p>I can self-monitor heart rate during exercise and summarize my performance.</p> <p>I can monitor heart rate at different intensity levels and graph this in my (selected assessment product: i.e., log, journal or portfolio).</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Questioning to check for understanding. Example: What are the problems individuals avoid by monitoring heart rates during physical activity? <ul style="list-style-type: none"> ○ Helps avoid undertraining or working out at a low intensity. Effects are not burning many calories and no increase of strength or cardiovascular endurance. ○ Helps avoid overtraining or working out too hard. Possible effects are dehydration, causing your blood pressure to drop, making you dizzy and putting you at risk for fall injuries and susceptibility to infections and chronic pain. • Calculation of target heart rate ranges for appropriate intensity levels. • Heart rate logs: Added to 60 minute a day activity plan to show appropriate intensity levels. • Written: Describe when/how to take resting heart rate and what it indicates. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Evaluate personal heart rates before, during and after activities that develop the components of skill-related fitness. 	<ul style="list-style-type: none"> • Resting heart rates: When the body is pumping the lowest amount of blood you need. <ul style="list-style-type: none"> ○ Take resting pulse by placing the tips of the index and middle fingers on their opposite wrist. Count the number of heartbeats in 60 seconds (or count for six seconds and multiply the number by 10). • What affects resting pulse? <ul style="list-style-type: none"> ○ A variety of factors can affect your resting pulse such as: reading, the physical size of your heart, body size, activity level, fitness level, temperature, body position, emotions, and medication use. ○ A higher resting pulse than usual can also be a sign of over-training or illness. • Target heart rates help to determine fitness levels. By keeping the target heart rate in check a person is able to avoid under or over training. Under-training happens when a person's heart rate is too low which results in a low intensity work out. If a person is not working to their body's potential, there is no way they can burn enough calories to result in weight loss nor can they get up the endurance to build strength. Individuals who under-train will take significantly longer to see the results they desire. 	<ul style="list-style-type: none"> • Record target heart rates while resting and participating in different activities. • Teach activities that sustain a maximum target heart rate of 60% to 85% of maximum heart rate for a minimum of 20 minutes. • Create activities that cause students to move through the different intensity levels and take target heart rates throughout.

Activity	Time	Skill-Related Fitness Components
Run through hoops or ladders	30 sec.	Agility
Fast weaving through cones	30 sec.	Agility
Balancing on balance board or blocks for 10 seconds at each level: low, medium and high	10 sec. Each level	Static Balance
Go through the motions of a baseball pitch. – Move from a balanced knee-up position, to the dynamic motion of the pitch, to a balanced position at the end of the follow-through.	30 sec.	Dynamic Balance
Throwing a ball against the wall and catching it	30 sec.	Eye-hand Coordination
Tap right toe then left toe on top of a soccer ball. Moving quickly and alternating taps	30 sec.	Eye-hand Coordination
Short sprints, back and forth (About 8 yards)	30 sec.	Speed
Shuttle run between two lines	30 sec.	Speed
Skipping motion with high knee lifts	30 sec.	Power
Jumps to top of folded mats. Step down, repeat.	30 sec	Power
Partners in push-up position, bean bag between them. See who can get the bean bag first, repeat.	30 sec	Reaction Time

Resources:

SHAPE America National Standards and Grade-Level Outcomes; <http://www.cdc.gov/physicalactivity/basics/measuring/hearttrate.htm>;
http://www.heart.org/HEARTORG/Educator/FortheClassroom/MiddleSchoolLessonPlans/Middle-School-Lesson-Plans_UCM_304280_Article.jsp#.WBkH-7frvct;
<http://blog.fitdigits.com/health-through-fitness/resting-heart-rate/>

VA SOL Standard: 8.4 The student will describe and apply a variety of social and safety skills to achieve individual and group goals in a variety of physical activity settings.

ENDURING UNDERSTANDINGS

- Being aware of personal strengths, individual needs and specific health risks, is essential for safely starting a new physical activity.
- People who are physically fit have a lower risk of injury than people who are not and the health benefits of physical activity far outweigh the risks.

<p>VDOE Standard(s) Student Friendly Language What will the student know and be able to do?</p>	<p>SUGGESTED/SAMPLE ASSESSMENTS</p>	<p>Terms (Vocabulary) and Content Information</p>	<p>SUGGESTED/SAMPLE ACTIVITIES</p>
<p>8.4 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).</p> <p>Suggested Learning Targets:</p> <p>I can summarize types of equipment, products, procedures and rules that contribute to the safety of (specific activity: e.g., jogging down the road in hot weather, cyclists using helmets, shallow water diving) and demonstrate best practices through a summary paragraph.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Questioning to check for understanding • Teacher observation <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Design and build an obstacle course outdoors. Present through lecture and demonstration how to navigate the course for injury prevention, proper alignment, use of equipment, rules, plus hydration and sun protection for an outdoor activity. 	<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 activity is necessary to meet health goals. ○ Be protected by using appropriate gear and sports equipment, looking for safe environments, 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. ○ Make 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 mid-day 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. 	<ul style="list-style-type: none"> • Groups select a low-organized game to teach the class. After “teaching” their game to the class, the teacher has a class discussion using the following questions: <ul style="list-style-type: none"> ○ Did the “teachers” review proper safety rules and procedures? ○ Did participants apply safety rules that ensured a safe and fair playing environment? ○ Were all students encouraged to be part of the game? ○ Was equipment safe? ○ Was the environment free of possible hazards?

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| | | <ul style="list-style-type: none">• Benefits of water during exercise:
http://www.humankinetics.com/excerpts/excerpts/benefits-of-water-during-exercise | |
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Resources:

SHAPE America National Standards and Grade-Level Outcomes

<http://www.health.harvard.edu/healthbeat/10-tips-for-exercising-safely>; <http://www.earlytorise.com/10-best-practices-for-safe-workouts/>;
<http://www.everydayhealth.com/fitness/basics/tips/how-to-exercise-safely.aspx>; <http://www.cancer.org/healthy/besafeinthesun/index>
http://www.heart.org/HEARTORG/HealthyLiving/PhysicalActivity/FitnessBasics/Warm-Up-Cool-Down_UCM_430168_Article.jsp#.V7G32bf6vcs;
<http://www.cdc.gov/homeandrecreationalafety/water-safety/waterinjuries-factsheet.html>; <http://kidshealth.org/en/teens/safety-inline.html?WT.ac=ctg#catdieting>;
<http://kidshealth.org/en/teens/safety-golf.html?WT.ac=ctg#catdieting>

VA SOL: 8.4 The student will describe and apply a variety of social and safety skills to achieve individual and group goals in a variety of physical activity settings.

ENDURING UNDERSTANDING

- Values associated with well-being, personal development and social integration include effort, self-management, respect for other people's feelings and rights and caring.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.4 b) Describe and demonstrate appropriate encouragement and feedback to peers without prompting from the teacher.</p> <p>Suggested Learning Targets:</p> <p>I can use a checklist to provide appropriate feedback to a peer/partner.</p> <p>8.4 c) Identify and demonstrate proper etiquette, respect for others, integrity and teamwork while engaging in physical activity and/or social dance.</p> <p>Suggested Learning Targets:</p> <p>I can organize games and apply safety rules and procedures and demonstrate it to my teacher.</p> <p>I can identify the rules of fair play and behavior and give examples to a peer.</p> <p>I can abide by the decisions of the officials, accept the outcome of the game and show appreciation toward participants and demonstrate it to my teacher.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Peer Assessment Example: Give feedback to one another on participation behavior using a checklist or rubric that is student or teacher created. • Teacher observation of students working with a variety of partners/peers. Example: What to look for (measure/assess) during activity: <ul style="list-style-type: none"> ○ Are students accepting of all partners? ○ Are students hustling to find partners? ○ Are they mixing themselves up? • Written Example: <ul style="list-style-type: none"> ○ Select a sport or game from a posted list and research the rules and etiquette. Present information to class. • Reflection/Journal: Writing on ethics in sports and how these issues affect today's youth. • Questioning to check for understanding • Student reflection on the importance of cooperating with classmates and the importance of supportive behaviors. <p>Assessment of Learning (Summative)</p>	<ul style="list-style-type: none"> • Respecting the rights and feelings of others: <ul style="list-style-type: none"> ○ By maintaining self-control ○ By respecting everyone's right to be included ○ By respecting everyone's right to a peaceful conflict resolution • Participation and putting forth effort: <ul style="list-style-type: none"> ○ By exploring effort ○ By trying new things ○ By developing a personal definition of success • Being sensitive and responsive to the well-being of others: <ul style="list-style-type: none"> ○ By developing prerequisite interpersonal skills ○ By becoming sensitive and compassionate to others ○ By helping others without the need for rewards. • Self-efficacy: The belief in one's capabilities to organize and execute the courses of action to produce given attainments. • Measures of sportsmanship: <ul style="list-style-type: none"> ○ Be polite, don't show off, tell opponents good game, learn the rules, don't argue with the official, don't make up excuses or blame a teammate, be willing to sit out, play fair, don't cheat, cheer for teammates) • Measures of responsibility: <ul style="list-style-type: none"> ○ Personally: 	<ul style="list-style-type: none"> • Students create a behavior checklist for participation in physical activities. Partners will exchange their checklist and evaluate each other during a physical activity. Partners will pair/share upon completion of the checklist evaluation. • Teacher integrates the teaching of responsibility within physical activities/games by allowing students opportunities to make informed decisions about positive behaviors. • Students apply rules and etiquette by acting as an official for modified physical activities/games. • Students create dance routines within a given set of parameters while demonstrating responsible social behavior that shows respect for self and others. • Class discussions on the importance of fair play and etiquette (e.g., shaking hands with opponents after a game)

<p>I can demonstrate appropriate etiquette in activity settings and give examples to a peer.</p>	<ul style="list-style-type: none"> • Checklist: <ul style="list-style-type: none"> Example ___ Working with the team to apply knowledge about a game/activity/dance to outsmart opponents by understanding their moves or showing comprehension of dance elements. ___ Showing commitment to the game/activity/dance. ___ Caring for classmates by showing kind treatment during game/activity/dance. ___ Support and encourage classmates instead of using put-downs during game/activity/dance. ___ Showing control and standing tall when faced with defeat in game/activity or inability to master a dance routine. ___ Owning up to mistakes/fouls that are made during game/activity/dance. ___ Showing humility by refraining from boasting when winning a game/activity or completing a dance routine. 	<ul style="list-style-type: none"> ▪ Willingness to try and experience new things ▪ Can work independently ▪ Can develop and carry out a plan that will enhance personal well-being ○ Socially: <ul style="list-style-type: none"> ▪ Can respect the rights and feelings of others ▪ Is sensitive and responsive to the well-being of others ▪ Attempts to put these actions into practice in and outside of physical education classes 	
<p>Resources: SHAPE America National Standards and Grade-Level Outcomes; http://classroom.kidshealth.org/classroom/6to8/personal/growing/empathy.pdf; http://www.teachpe.com/sports_psychology/attitudes.php; http://lessonplanspage.com/peoempowereddecisionmaking612.htm/; http://classroom.kidshealth.org/classroom/6to8/personal/growing/getting_along.pdf; http://www.pecentral.org/climate/january99article.html</p>			

VA SOL Standard: 8.4 The student will describe and apply a variety of social and safety skills to achieve individual and group goals in a variety of physical activity settings.

ENDURING UNDERSTANDINGS

- Physical activity is an effective means of reducing stress.
- Stress is only harmful when it becomes overwhelming and interrupts the healthy state of equilibrium that your nervous system needs to remain in balance.

<p>VDOE Standard(s) Student Friendly Language What will the student know and be able to do?</p>	<p>SUGGESTED/SAMPLE ASSESSMENTS</p>	<p>Terms (Vocabulary) and Content Information</p>	<p>SUGGESTED/SAMPLE ACTIVITIES</p>
<p>8.4 d) Demonstrate basic movements used in stress-reducing activities (e.g., yoga, Pilates, Tai Chi).</p> <p>Suggested Learning Targets:</p> <p>I can identify the different relaxation techniques that relieve stress and list them in an exit ticket.</p> <p>I can develop a plan to incorporate stress reduction practices into my daily life and record that in my (selected assessment product: i.e., log, journal or portfolio).</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Teacher observation • Peer coaching: One student helps another learn basic movements. • Peer assessment: Evaluate basic movements used in yoga, Pilates or Tai Chi for accuracy. Then revise and refine. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Demonstrate and explain relaxation techniques. • Develop a plan for incorporating stress reduction practices into your daily life. 	<ul style="list-style-type: none"> • Yoga: The physical practice of stepping the body through a series of poses and postures which help improve strength, flexibility and balance. The practice of yoga relieves muscle tension, lowers blood pressure and decreases cholesterol levels. It is an excellent stress-relieving practice. <ul style="list-style-type: none"> ○ http://kidshealth.org/en/teens/yoga-home.html?WT.ac=ctg#catdieting ○ http://kidshealth.org/en/teens/yoga-stress.html?WT.ac=t-ra ○ http://kidshealth.org/en/teens/meditation.html?WT.ac=t-ra • Tai Chi: Was originally developed in China as a martial-arts style of self-defense. Over time, it has become a form of exercise and a process for personal development. It involves the practice of various postures. Movements are continuous and serve to relax and align the body. <ul style="list-style-type: none"> ○ http://kidshealth.org/en/teens/tai-Chi.html?WT.ac=ctg#catdieting • Pilates: A series of fluid movements performed in a precise manner, accompanied by specialized breathing techniques and intense mental concentration. 	<ul style="list-style-type: none"> • Basic movements used in stress reducing activities such as yoga, Pilates and Tai Chi. <ul style="list-style-type: none"> ○ Example <ul style="list-style-type: none"> ○ http://www.pecentral.org/lessonideas/VielLesson.asp?ID=8790#.WBdeWfrvcs • Relaxation techniques such as: <ul style="list-style-type: none"> ○ Breathing mediation: Is breathing deeply from the abdomen, getting as much fresh air as possible in your lungs ○ Progressive muscle relaxation: Relaxing muscles starting at the feet and working up to the face ○ Body scan meditation: Focuses on the sensations in each part of your body ○ Mindfulness: The ability to remain aware of how you're feeling right now, your "moment-to-moment" experience—both internal and external ○ Visualization: or guided imagery, requires you to employ not only your visual sense, but also your sense of taste, touch, smell and sound. When used as a relaxation technique, it involves imagining a scene in which you feel at peace, free to let go of all tension and anxiety.

		<ul style="list-style-type: none">• Amount of recommend relaxation practice time:<ul style="list-style-type: none">○ Most stress experts recommend setting aside at least 10 to 20 minutes a day for relaxation practice. If you'd like to get even more stress relief, aim for 30 minutes to an hour. If that sounds like a daunting commitment, remember that many of these techniques can be incorporated into your existing daily schedule such as: practice at your desk over lunch or on the bus during your morning commute.	
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Resources:
SHAPE America National Standards and Grade-Level Outcomes; <http://darebee.com/>; http://www.sparkpe.org/wp-content/uploads/yoga-content-card_hs.pdf
<http://www.webmd.com/balance/stress-management/stress-busting-checklist>;
http://www.uwosh.edu/ccdet/caregiver/Documents/Responding/StressReduction_FacilitatorGuide_022510.pdf

VA SOL Standard: 8.4 The student will describe and apply a variety of social and safety skills to achieve individual and group goals in a variety of physical activity settings.

ENDURING UNDERSTANDINGS

- Team building activities are stimulating problem-solving tasks designed to help group members develop their capacity to work effectively together.
- Group dynamics describes the way members of a group interact with each other.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.4 e) Apply communication skills and strategies that promote team/group dynamics.</p> <p>Suggested Learning Targets:</p> <p>I can organize and work cooperatively with a group to achieve the goals of the group and describe how I showed that in a summary paragraph.</p> <p>I can identify the contributions of members of a group or team and reward members for accomplishing a task or goal and demonstrate that through feedback to peers within my group.</p> <p>I can accept the roles of group members within the structure of a game or activity and demonstrate that to my teacher.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Teacher observation • Teacher questioning for understanding: Example – Students are given statements they agree, disagree or unsure of and include a reason for their answer. <ul style="list-style-type: none"> ○ Everyone has to put up with a certain amount of disrespect in team/group activities. ○ Saying “please” and “thank-you” shows respect for people. ○ Treat people with respect. ○ I’ll talk to you any way I want. ○ Swearing is an acceptable way of communicating. ○ There is no “I” in teamwork. ○ There are occasions when one has to raise one’s voice when talking in a group. • Student self-reflection: Example – <ul style="list-style-type: none"> ○ If a classmate says or does something I agree with, I ... ○ When I want to make a point to the group, I ... ○ If a group member ignores my suggestions, I ... ○ If a group member says or does something I disagree with, I ... ○ If I don’t understand the group leaders ideas, I ... • Written: List strategies of how to include others when creating groups for physical activities and explain how these strategies improve time wasted and ease confusion. 	<ul style="list-style-type: none"> • Vocabulary for team building skills to accomplish a common goal: <ul style="list-style-type: none"> ○ Positive interdependence: Team members rely on one another to achieve the goal. If any team member fails to do their part, everyone suffers the consequences. ○ Individual accountability: All students within the group are held accountable for doing their share of the work. ○ Face-to-face interaction: Group members interacting to provide one another with feedback, reasoning, conclusions and encouragement. ○ Group processing: Groups set goals, assess what they are doing well and identify changes they will make to function more effectively in the future. • Collaborative Skills include: <ul style="list-style-type: none"> ○ The abilities to contribute to group activities and discussions. ○ Consider the ideas and perspectives of others. ○ Include others in the collaborative process. ○ Stay focused on the task. ○ Provide and receive feedback constructively. 	<ul style="list-style-type: none"> • Class discussions on the following: <ul style="list-style-type: none"> ○ Effective listening skills: Staying quiet while someone is speaking ○ Effective speaking skills: Changing language and tone to make the message clearer and/or more appealing to the listener ○ Effective non-verbal skills that enhance effective communication: Using appropriate body language such as smiling or affirmative nod of the head. • Students evaluate the role of cooperation and positive interactions with others when participating in physical activity.

**Assessment of Learning
(Summative)**

- Written:
Example – Students will write about the following:
 - During an activity/game this school year, have you experienced an incident that made you angry?
 - Describe what happened in the incident. When/where did it happen?
 - What were your thoughts and feelings at the time?
 - Describe your actions and how you handled the situation.
 - What was the result?
 - How would you act now in a similar situation?
 - What communication skills and strategies could have applied to this situation?

Resources:

SHAPE America National Standards and Grade-Level Outcomes; <http://kidshealth.org/en/teens/tips-disagree.html>

VA SOL Standard: 8.4 The student will describe and apply a variety of social and safety skills to achieve individual and group goals in a variety of physical activity settings.

ENDURING UNDERSTANDINGS

- Personal actions affect more than oneself.
- When handled in a respectful and positive way, conflict provides an opportunity for growth, ultimately strengthening the bond between people.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.4 f) Describe and demonstrate conflict-resolution skills.</p> <p>Suggested Learning Targets:</p> <p>I can describe ways to avoid conflict with peers through an exit ticket.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Student reflection on the importance of cooperating with classmates and the importance of supportive behaviors. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Teacher presents staged conflicts in different activities and students use appropriate conflict-resolution techniques to resolve the conflict. 	<ul style="list-style-type: none"> • Conflict resolution skills: <ul style="list-style-type: none"> ○ Discuss problem without blame ○ Active listening ○ Identify and clarify issues and needs ○ Brainstorm solutions ○ Choose and apply solution ○ Evaluate solution • Constructive ways to address conflict: <ul style="list-style-type: none"> ○ Listen to all opinions before making a judgment ○ Talk it out ○ Have face-to-face conversations with a mediator/teacher present ○ Seek understanding • Destructive ways to address conflict: <ul style="list-style-type: none"> ○ Criticize people for their opinions ○ Blame others ○ Say or do hurtful things • Content that addresses and emphasizes the role of personal reactions during interactions with others as well as the importance of supportive behavior and social skills 	<ul style="list-style-type: none"> • Provide students with a list of opposites (e.g., black/white, heavy/light, excellent/poor) and have them find the word that best describes the half way point between the two opposites (e.g., black/gray/white). Then have a class discussion on the understanding of the term compromise. • Teach problem-solving techniques to resolve conflicts when necessary in competitive activities. • Use cooperative games and team-building challenges to emphasize inclusion, safety, conflict resolution and problem-solving. • Participate in activities that use resistance, refusal, negotiation, collaboration and conflict resolution skills to maximize personal potential and to build and maintain healthy relationships.

Resources:

SHAPE America National Standards and Grade-Level Outcomes; http://classroom.kidshealth.org/classroom/6to8/personal/growing/conflict_resolution.pdf; <http://ctb.ku.edu/en/table-of-contents/implement/provide-information-enhance-skills/conflict-resolution/tools>

VA SOL Standard: 8.4 The student will describe and apply a variety of social and safety skills to achieve individual and group goals in a variety of physical activity settings.

ENDURING UNDERSTANDINGS

- Working with others and encouraging teamwork will build confidence and support within a group.
- Being a problem solver isn't just an ability; it's a whole mind-set, one that drives people to bring out the best in themselves and to shape the world in a positive way.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.4 g) Apply problem solving skills in cooperative and dynamic physical activities and/or dance settings.</p> <p>Suggested Learning Targets:</p> <p>I can work cooperatively with a group to achieve the goals by using problem-solving skills and give examples of how I demonstrated that in an exit ticket.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Teacher observation • Questioning to check for understanding. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Students will participate in a cooperative physical activity/or dance then reflect on the problems that arose and how problem solving skills were used. Evaluate the solution used and whether it was successful in solving the problem. 	<ul style="list-style-type: none"> • Cooperative learning for problem solving: <ul style="list-style-type: none"> ○ Division of labor among students in the group ○ Face-to-face interaction between students ○ Assignment of specific roles and duties to students ○ Group processing of a task ○ Positive interdependence in which students all need to do their assigned duties in order for the task to be completed ○ Individual accountability for completing one's own assigned duties ○ The development of social skills as a result of cooperative interaction ○ Provision of group rewards by the teacher ○ Group members responsible for the behavior of all members. If a team member displays inappropriate behavior, it is the duty of fellow members to remind that student to 'check' him/herself. The members attempt to refocus the misbehaving student by offering help and suggestions. • Applying problem-solving skills: Students take on some of the responsibility for their own learning by taking personal action to solve problems, resolve conflicts, discuss alternatives and focus on thinking as a vital element of the curriculum. Basic functions for problem solving include: <ul style="list-style-type: none"> ○ Seeking information ○ Generating new knowledge ○ Making decisions 	<ul style="list-style-type: none"> • Teach the problem solving process <ul style="list-style-type: none"> ○ Identify the problem ○ Analyze the problem. ○ Generate potential solutions ○ Select and plan the solution ○ Implement the solution ○ Evaluate the solution • Teach cooperative games • Groups create exercise routines or line dances to music and then teach them to the entire class

Resources:

SHAPE America National Standards and Grade-Level Outcomes; <http://www.learningforlife.org/exploring-resources/99-720/x09.pdf>
<http://www.pecentral.org/lessonideas/searchresults.asp?subcategory=cooperative+learning>

VA SOL Standard: 8.4 The student will describe and apply a variety of social and safety skills to achieve individual and group goals in a variety of physical activity settings.

ENDURING UNDERSTANDINGS

- Even performing the simplest of the embedded social and communication skills involves some type of motor skills (e.g., smiling when greeted, pointing to a choice).
- Participating in physical activities helps to achieve the development of motor skills that will maximize participation today and the motor skills that will increase independence in the future.
- Positive relationships play a crucial role in well-being, thus opportunities for social interaction through physical activity in the community could vastly improve the well-being of individuals as well as the community as a whole.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.4 h) Analyze and compare social and emotional benefits of participation in a variety of activities.</p> <p>Suggested Learning Targets:</p> <p>I can analyze and compare social and emotional benefits of (specific activity i.e. a walking group) through a graphic organizer.</p> <p>8.4 i) Identify opportunities for social interaction through physical activity in the community.</p> <p>Suggested Learning Targets:</p> <p>I can identify opportunities for social interaction in the community through (specific activity i.e. hiking, biking, walking or rock climbing.) and give examples to a peer.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Questioning to check for understanding: Example – What are the social opportunities and emotional benefits of walking groups? Answer: Walking does not require any special skills or equipment and it can be done almost anywhere and with little cost. Group-based walking programs have been conducted with many different types of groups such as, older adults, women, new mothers and people from non-English speaking backgrounds, as well as low income populations. It shows promising results with respect to fostering social capital like social networks and support, cooperation, community involvement, promoting physical activity and the creation of a sense of purpose and belonging. • Research to learn physical activities appropriate to your area that encourage social interaction. Examples: Skiing, hiking, biking, walking tracks or rock climbing. 	<ul style="list-style-type: none"> • Social and emotional benefits of participation in a variety of physical activities: <ul style="list-style-type: none"> ○ Improves your mental health and mood ○ Reduces the risk of depression and anxiety ○ Develops higher self-esteem and body image ○ Helps develop basic motor skills needed for day-to-day life ○ Effective in promoting mutual understanding and empathy among young people • Benefits of team activities: <ul style="list-style-type: none"> ○ Builds character– social skills like teamwork, cooperation and leadership ○ Ability to handle winning and losing while being a good sport ○ Helps develop discipline ○ Helps set goals and then work to achieve those goals ○ Moral behavior is acquired through social interaction that occurs through games and physical activity conducted in a collective. Whether or not the game or physical activity has a positive impact on character-building in an individual is highly dependent on the context of the program and the values promoted and developed. 	<ul style="list-style-type: none"> • Lessons about the role of physical activity as a means for group membership and positive social interaction and the importance of this type of interaction throughout history and in different cultures. • Make connections between an activity and the emotional benefits and social interaction. Example – It is found that group-based walking substantially increased social capital that includes sense of connectedness, collective efficacy, social engagement and acceptance of other groups.

	<p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none">• Pick three community activities and analyze the social and emotional benefits of participation in the activities.		
<p>Resources: SHAPE America National Standards and Grade-Level Outcomes; http://www.helpguide.org/articles/exercise-fitness/emotional-benefits-of-exercise.htm http://www.thecommunityguide.org/pa/behavioral-social/community.html; http://ijbnpa.biomedcentral.com/articles/10.1186/1479-5868-4-54</p>			

VA SOL Standard: 8.5 The student will explain the relationship of caloric intake, caloric expenditure and body composition.			
ENDURING UNDERSTANDINGS			
<ul style="list-style-type: none"> Diet-related chronic diseases are the most common cause of death in the world and present a great burden for society. The imbalance between declining energy expenditure due to physical inactivity and high energy in the diet is the main determinant of the obesity epidemic. 			
VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.5 a) Describe the relationship between poor caloric intake and health risk factors.</p> <p>Suggested Learning Targets:</p> <p>I can describe the health problems of too low a caloric intake and demonstrate it in my (selected assessment product: i.e., journal or portfolio).</p> <p>I can describe the disease associated with too high a caloric intake and demonstrate it in my (selected assessment product: i.e., journal or portfolio).</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> Questioning to check for understanding Teacher observation <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> Choose three diseases that are linked to too high a caloric intake and describe the relationships. 	<ul style="list-style-type: none"> Health Risk Factors for Poor Caloric Intake: <ul style="list-style-type: none"> Obesity: The imbalance between declining energy expenditure due to physical inactivity and high energy in the diet (excess calories whether from sugar, starches, or fat) is the main determinant of the obesity epidemic. Increasing physical activity, plus reducing intakes of foods high in fat and foods and drinks high in sugars, can prevent unhealthy weight gain. Diabetes: Excess weight gain, overweight and obesity and physical inactivity account for the high rates of type 2 diabetes in the world. Diabetes leads to increased risk of heart disease, kidney disease, stroke and infections. Increased physical activity and maintaining a healthy weight play an important role in the prevention and treatment of diabetes. Cardiovascular diseases: Cardiovascular diseases are the major killers worldwide. Included are heart disease and stroke. They are due to unbalanced diets and physical inactivity. Prevention and treatment includes eating less saturated and trans fats and sufficient amounts of (n-3 and n-6) polyunsaturated fats, fruits and vegetables and less salt, as well as by physical activity and controlling weight. Cancer: Maintaining a healthy weight will reduce the risk for cancers of the esophagus, colorectal, breast, endometrium and kidney. Adequate intake of fruit and vegetables should further reduce risk for oral cavity, esophagus, stomach and colorectal cancer. Osteoporosis and bone fractures: Adequate intake of calcium (500 mg per day or more) and of vitamin D helps to reduce fracture risk. Sun exposure and physical activity also strengthen bones and muscles. 	<ul style="list-style-type: none"> Discuss the health problems of too low of a caloric intake: Example – <ul style="list-style-type: none"> Reduced muscle mass because your body searches for sources of energy to keep the vital organs functioning Metabolic rate will drop and compound muscle mass loss Become sluggish and often highly irritable Binge dieting causes vital organs to stop functioning properly Discuss the health problems of too high of a caloric intake: Example – <ul style="list-style-type: none"> Body stores excess calories in fat cells *See content information on diseases due to high calorie intake
<p>Resources: SHAPE America National Standards and Grade-Level Outcomes; http://kidshealth.org/en/kids/calorie.html; http://kidshealth.org/en/teens/emotional-eating.html?WT.ac=ctg#catdieting; http://kidshealth.org/en/teens/food-journal.html?WT.ac=ctg;</p>			

VA SOL Standard: 8.5 The student will explain the relationship of caloric intake, caloric expenditure and body composition.

ENDURING UNDERSTANDINGS

- Physical activity is a key determinant of energy expenditure and thus fundamental to energy balance and weight control.
- People of the same height and weight may need different amounts of energy or calories to maintain their weight, depending on their body composition.
- Many factors influence body composition, including gender, age, diet, activity level and genes.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES																		
<p>8.5 b) Explain the role of energy balance in weight management and body composition.</p> <p>Suggested Learning Targets:</p> <p>I can explain the relationship between caloric intake and physical activity through a graphic organizer.</p> <p>I can explain the effects of nutrition and participation in physical activity on weight control, self-concept and physical performance through reflective writing in my fitness journal/portfolio.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Questioning to check for understanding Journals: <ul style="list-style-type: none"> ○ Gathering and organizing information on the role of energy balance in weight management and body composition. ○ Reflecting on personal weight for maintaining or improving. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Develop a plan of improvement for weight management and body composition using specificity, overload and progression. Example – <ul style="list-style-type: none"> ○ Overload <ul style="list-style-type: none"> ▪ Frequency: daily aerobic exercise ▪ Intensity: low ▪ Time: approximately one hour ○ Progression <ul style="list-style-type: none"> ▪ Begin daily ▪ Begin a low intensity aerobic intensity and work up to a longer duration ▪ Begin low-intensity aerobic exercise for 30 minutes and work up to 60 minutes ○ Specificity <ul style="list-style-type: none"> ▪ Increase aerobic exercise and decrease caloric intake 	<ul style="list-style-type: none"> • Body Fat Ranges <table border="1" data-bbox="1045 500 1518 873"> <thead> <tr> <th></th> <th>Men</th> <th>Women</th> </tr> </thead> <tbody> <tr> <td>Exceptionally Lean</td> <td>6 - 10%</td> <td>10 - 15%</td> </tr> <tr> <td>Very Lean</td> <td>11 - 14%</td> <td>16 - 19%</td> </tr> <tr> <td>Lean</td> <td>15 - 18%</td> <td>20 - 25%</td> </tr> <tr> <td>Moderate</td> <td>19 - 24%</td> <td>26 - 29%</td> </tr> <tr> <td>Obese</td> <td>25%+</td> <td>30%+</td> </tr> </tbody> </table> • Calories are units of energy and are found in our food and drinks. It's important to consume enough calories so that our bodies have the energy they need to grow and function. When we consume more calories than we burn, they are stored in our bodies as fat and this can lead to a variety of health problems. The number of calories that each person needs varies based on factors like age, height, weight and how much we exercise. • The total amount of caloric expenditure associated with physical activity is determined by the amount of muscle mass producing bodily movements and the intensity, duration and frequency of muscular contractions. 		Men	Women	Exceptionally Lean	6 - 10%	10 - 15%	Very Lean	11 - 14%	16 - 19%	Lean	15 - 18%	20 - 25%	Moderate	19 - 24%	26 - 29%	Obese	25%+	30%+	<ul style="list-style-type: none"> • Make connections between activities and the Rate of Exertion Scale in relationship to weight management and body composition. • Make connections to activity level and calorie intake. Example – <ul style="list-style-type: none"> ○ You gain weight when the calories you burn, including those burned during physical activity, are less than the calories you eat or drink. ○ Give expended calories in different activities such as; <ul style="list-style-type: none"> Jogging 30 min. around 300; Hiking 30 min. around 200; Walking 30 min. around 125 ○ http://kidshealth.org/en/teens/weight-tips.html?WT.ac=ctg#catdieting
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Resources:

SHAPE America National Standards and Grade-Level Outcomes; <http://teenshealth.org/en/teens/fat-calories.html#>
<http://kidshealth.org/en/teens/detox-diets.html?WT.ac=ctg#catdieting>; <http://kidshealth.org/en/teens/bmi.html?WT.ac=ctg#catdieting>
<http://kidshealth.org/en/teens/healthy-weight-plan.html?WT.ac=ctg#catdieting>; <http://kidshealth.org/en/kids/fat-thin.html>; <http://www.calorieking.com/>

VA SOL Standard: 8.5 The student will explain the relationship of caloric intake, caloric expenditure and body composition.

ENDURING UNDERSTANDING

- Body composition analysis is an important part of your fitness assessment because it shows how much fat you carry on your body in relation to your muscle mass.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.5 c) Describe types of body-composition measures and demonstrate appropriate use of one measure.</p> <p>Suggested Learning Targets:</p> <p>I can use a skin caliper to determine body-composition and demonstrate that to a peer.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Questioning to check for understanding. Example – Name different ways of measuring body-composition. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Describe one body-composition measure and demonstrate appropriate use. Example – Skinfold measurement: Folds of your skin are measured with calipers in as few as 3 to as many as 9 areas of your body. Skinfold measurements are made by grasping the skin and underlying tissue, shaking it to exclude any muscle and pinching it between the jaws of the caliper. Then a calculation is used to derive a body fat percentage based on the sum of the measurements. 	<ul style="list-style-type: none"> • Ways body composition is measured: <ul style="list-style-type: none"> ○ Underwater Weighing: The most accurate method for measuring body composition. Underwater weighing involves submerging a person in a tank of water and having him/her expel the air out of his/her lungs. This method is not easy to administer and can be very expensive. Error of underwater weighing is 2 to 2.5%. ○ Skinfold Measurements: Measure the subcutaneous fat folds around specific body parts (triceps, waist, thigh and back) with skin calipers. The accuracy of the skinfold test depends upon the person performing it, the integrity of the skin caliper and the kind of formula one uses to calculate percentage of body fat. These, in turn, increase chances for error, which is 3 to 3.5%, but could be as high as 5%. ○ Bioelectrical Impedance: A simple, non-invasive technique that uses electrical conductivity to estimate lean body mass. This test is dependent upon hydration status because muscle holds most of the water in the body; so, the more muscle, the better the conduction. The error of bioelectrical impedance is 3 to 3.5%. ○ NIR (Near Infrared Interactance): Uses a fiber optic probe to measure subcutaneous fat and muscle at the biceps. A relatively new method that has questionable validity. ○ MRI/CT Scan: Creates a visual display of specific body areas, showing deep fat with the comparison to bone. This technique is expensive and has not been proven to be better than underwater weighing. 	<ul style="list-style-type: none"> • Introduce the different ways to measure body-composition. • Students use teacher given types of available measurements for body-composition for use of before and after results of an activity plan.

		<ul style="list-style-type: none">○ Circumferences taken of various body parts with a soft measuring tape: Common circumferences taken are the neck, chest, arms, forearms, waist, hip, thighs and calves. There are equations which allow you to estimate body fat percentage using circumferences.○ Body composition can also be assessed with a “before and after picture.” Show as much skin as possible to see if the training program gave the results wanted.	
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Resources:

SHAPE America National Standards and Grade-Level Outcomes; <http://www.nhlbi.nih.gov/health/educational/wecan/healthy-weight-basics/balance.htm>;
<http://goaskalice.columbia.edu/what-relationship-between-body-composition-and-caloric-need>;

VA SOL Standard: 8.5 The student will explain the relationship of caloric intake, caloric expenditure and body composition.

ENDURING UNDERSTANDINGS

- Using the RPE scale helps you to recognize your body's signs of exertion and to modify your normal workout intensity.
- Rating of perceived exertion (RPE) is a subjective rating system for exercise intensity based on general fatigue and helps individuals focus on the feelings of exertion.
- The RPE scale serves as an indicator of your heart rate.

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<p>8.5 d) Explain a Rate of Perceived Exertion (RPE) scale and how it relates to energy expenditure.</p> <p>Suggested Learning Targets:</p> <p>I can explain an RPE scale and how it relates to weight loss through my fitness journal/portfolio.</p> <p>8.5 e) Describe how an RPE scale can be used to adjust workout intensity during physical activity.</p> <p>Suggested Learning Targets:</p> <p>I can describe how I use an RPE scale to adjust physical activity and reflect upon that in my fitness journal/portfolio.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Questioning to check for understanding. Example – Have students use a line on the gym floor as a Rate of Perceived Exertion (RPE) scale and establish which end of the line is “0” and which end of the line is “10”. Call out different physical activities and have students stand on the line based on where they would place the activity on the RPE scale. Have students defend their decisions based in a class discussion. Question how each activity relates to energy expenditure. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Choose a physical activity and describe how you would use an RPE scale to adjust workout intensity. Example – Based on the physical sensations experienced during activity such as: <ul style="list-style-type: none"> ○ Increased heart rate. ○ Increased respiration/breathing rate. ○ Increased sweating. ○ Muscle fatigue. 	<ul style="list-style-type: none"> • The RPE scale is used to measure the intensity of your exercise. The numbers below relate to phrases used to rate how easy or difficult you find an activity. Example – 0 (nothing at all) would be how you feel when sitting in a chair; 10 (very, very heavy) is how you feel at the end of a very difficult activity. 0 – Nothing at all 0.5 – Just noticeable 1 – Very light 2 – Light 3 – Moderate 4 – Somewhat heavy 5 – Heavy 6 7 – Very heavy 8 9 10 – Very, very heavy • All activity whether done at a light, moderate or high level of intensity expends energy and therefore is helpful for weight loss. The more intense the exercise and/or the longer the duration of exercise, the greater the energy expended per minute and the greater the impact on weight loss. 	<ul style="list-style-type: none"> • Use the RPE scale as an adjunct method to heart rate monitoring during exercise. • Discuss how the ratings of physical effort and feelings correspond with heart rate and people can learn to exercise at a desired level of intensity based on their subjective feelings of exertion. • Teach the physical cues of intensity levels: <table border="1" data-bbox="1444 829 2018 1479"> <thead> <tr> <th>Level of Intensity</th> <th>RPE</th> <th>Physical Cues</th> </tr> </thead> <tbody> <tr> <td>Light</td> <td>Easy</td> <td>Does not induce sweating unless it's a hot, humid day. There is no noticeable change in breathing patterns.</td> </tr> <tr> <td>Moderate</td> <td>Somewhat hard</td> <td>Will break a sweat after performing the activity for about 10 min. Breathing becomes deeper and more frequent. You can carry on a conversation but not sing.</td> </tr> <tr> <td>High</td> <td>Hard</td> <td>Will break a sweat after 3-5 minutes. Breathing is deep and rapid. You can only talk in short phrases.</td> </tr> </tbody> </table>	Level of Intensity	RPE	Physical Cues	Light	Easy	Does not induce sweating unless it's a hot, humid day. There is no noticeable change in breathing patterns.	Moderate	Somewhat hard	Will break a sweat after performing the activity for about 10 min. Breathing becomes deeper and more frequent. You can carry on a conversation but not sing.	High	Hard	Will break a sweat after 3-5 minutes. Breathing is deep and rapid. You can only talk in short phrases.
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			Duncan GE, Sydeman SJ, Perri MG, Limacher MC, Martin AD. Can sedentary adults accurately recall the intensity of their physical activity? Prev Med. 2001 Jul;33(1):18-26
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Resources:
SHAPE America National Standards and Grade-Level Outcomes; http://www.weightwatchers.com/util/art/index_art.aspx?tabnum=1&art_id=20971;
<http://www.cdc.gov/physicalactivity/basics/measuring/index.html>

VA SOL Standard: 8.5 The student will explain the relationship of caloric intake, caloric expenditure and body composition.

ENDURING UNDERSTANDING

- Both the warm-up and cool-down are aimed at enhancing flexibility, minimizing discomfort, and preventing injury.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.5 f) Describe the body's physiological responses to warm-ups and cool downs.</p> <p>Suggested Learning Targets:</p> <p>I can describe the effects of warm-ups on the body through an exit ticket.</p> <p>I can describe the effects of cool downs on the body to a peer.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> Questioning to check for understanding Teacher observation <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> Choose a physical activity and develop a warm-up and cool down that relates. Describe the physiological responses and the importance of the warm-ups and cool downs for that physical activity. 	<ul style="list-style-type: none"> Effects of Warmups: <ul style="list-style-type: none"> Dilates 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 its 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 	<ul style="list-style-type: none"> Teaching dynamic warm-ups, which involve moving joints repetitively within a full range of motion. Then discussing the benefits of warm ups. Choose warm-up exercises that connect to the activity and movements that students will be doing for the day. <ul style="list-style-type: none"> Discuss how activity-specific warm-ups are designed to properly prepare the body for physical activity and sharpen mental focus for the activity at hand.

Resources:

SHAPE America National Standards and Grade-Level Outcomes; <http://kidshealth.org/en/teens/stretching.html?WT.ac=ctg#catdieting>;
<http://www.fitnesshealth101.com/fitness/weight-training/beginners/warm-up>;

<p>VA SOL Standard: 8.5 The student will explain the relationship of caloric intake, caloric expenditure and body composition.</p> <p>ENDURING UNDERSTANDINGS</p> <ul style="list-style-type: none"> Aerobic exercise decreases fat mass, while strength training increases lean body mass, also helping to maintain optimal body composition. Cardiorespiratory exercises are continuous, dynamic exercise, which utilizes large muscle masses, requiring aerobic metabolic pathways to sustain the activity. 																																												
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<p>8.5 g) Identify activities that use the anaerobic and aerobic energy systems.</p> <p>Suggested Learning Targets:</p> <p>I can identify an activity that uses oxygen and tell a partner.</p> <p>I can identify an activity that does not use oxygen and tell a peer.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> Questioning to check for understanding Oral: Peer discussion Example – Think about several physical activities that use the anaerobic and aerobic energy systems. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> Explain the anaerobic and aerobic energy systems through the progression of an all-out sprint, to a slower jog, to an eventual walk. Identify another movement progression that moves through both the anaerobic and aerobic energy systems. 	<ul style="list-style-type: none"> Anaerobic exercise is typically used by athletes in non-endurance sports to build power and by body builders to build muscle mass. Examples of anaerobic exercise: <ul style="list-style-type: none"> Weight lifting Sprinting and jumping Any exercise that consists of short exertion, high-intensity movement 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. Examples of aerobic exercise: <ul style="list-style-type: none"> Walking Running Swimming Cycling One of the systems will be the dominant source of energy during a particular type of exercise but both exercise energy systems are active at all times. It is simply the relative amount of energy that each system is providing that will change with varying exercise intensity and duration. 	<ul style="list-style-type: none"> Perform activities that use the anaerobic and aerobic energy systems. Example: Discuss anaerobic and aerobic energy system contributions in track running events after students perform each event. <table border="1"> <thead> <tr> <th></th> <th>Males</th> <th>Males</th> <th>Females</th> <th>Females</th> </tr> <tr> <th>Event</th> <th>Aerobic Energy</th> <th>Anaerobic Energy</th> <th>Aerobic Energy</th> <th>Anaerobic Energy</th> </tr> </thead> <tbody> <tr> <td>100 m</td> <td>21%</td> <td>79%</td> <td>25%</td> <td>75%</td> </tr> <tr> <td>200 m</td> <td>28%</td> <td>72%</td> <td>33%</td> <td>67%</td> </tr> <tr> <td>400 m</td> <td>41%</td> <td>59%</td> <td>45%</td> <td>55%</td> </tr> <tr> <td>800 m</td> <td>60%</td> <td>40%</td> <td>70%</td> <td>30%</td> </tr> <tr> <td>1500 m</td> <td>77%</td> <td>23%</td> <td>86%</td> <td>14%</td> </tr> <tr> <td>3000 m</td> <td>86%</td> <td>14%</td> <td>94%</td> <td>6%</td> </tr> </tbody> </table> <p><i>Duffield R, Dawson B, Goodman C. Energy system contribution to 100-m and 200-m track running events. J Sci Med Sport. 2004 Sep; 7(3):302-13.</i> <i>Duffield R, Dawson B, Goodman C. Energy system contribution to 400-metre and 800-metre track running. J Sports Sci. 2005 Mar; 23(3):299-307.</i> <i>Duffield R, Dawson B, Goodman C. Energy system contribution to 1500- and 3000-metre track running. J Sports Sci. 2005 Oct; 23(10):993-1002.</i></p>			Males	Males	Females	Females	Event	Aerobic Energy	Anaerobic Energy	Aerobic Energy	Anaerobic Energy	100 m	21%	79%	25%	75%	200 m	28%	72%	33%	67%	400 m	41%	59%	45%	55%	800 m	60%	40%	70%	30%	1500 m	77%	23%	86%	14%	3000 m	86%	14%	94%	6%
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VA SOL Standard: 8.5 The student will explain the relationship of caloric intake, caloric expenditure and body composition.

ENDURING UNDERSTANDING

- Personalized meal plans should be based on your age, sex, height, weight and physical activity level.

VDOE Standard(s) Student Friendly Language What will the student know and be able to do?	SUGGESTED/SAMPLE ASSESSMENTS	Terms (Vocabulary) and Content Information	SUGGESTED/SAMPLE ACTIVITIES
<p>8.5 h) Create a one-week meal plan, including snacks and physical activity, based on Recommended Dietary Allowances (RDA), portions, macronutrients, vitamins, minerals, hydration, sugar and salt.</p> <p>Suggested Learning Targets:</p> <p>I can create a balanced healthy meal and demonstrate it in my fitness journal/portfolio</p> <p>I can identify what is a healthy snack and tell it to my teacher.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> Questioning to check for understanding Written: Research what is the Recommended Dietary Allowances (RDA), portions, macronutrients, vitamins, minerals, hydration, sugar and salt for healthy eating. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> Creation of the one-week meal plan that includes snacks and physical activity, based on Recommended Dietary Allowances (RDA), portions, macronutrients, vitamins, minerals, hydration, sugar and salt. 	<ul style="list-style-type: none"> Ranges of nutrient intake goals: <ul style="list-style-type: none"> Total fat intake should represent 15 to 30% of total dietary energy intake. Intake of free sugars, such as those found in soft drinks and many processed foods, should amount to less than 10% of total energy intake. An intake of at least 400g of fruits and vegetables per day is recommended. Combined with a consumption of wholegrain cereals to provide an adequate amount of fiber. Reduction of salt intake helps reduce blood pressure, a major cause of cardiovascular diseases. Diet Suggestions: <ul style="list-style-type: none"> Eat less high-calorie foods, especially foods high in saturated or trans fats and sugar. Be physically active, prefer unsaturated fat and use less salt. Enjoy fruits, vegetables and legumes; and select foods of plant and marine origin. Calories (kcal) in a gram of: <ul style="list-style-type: none"> Protein – one gram equals 4 kcal Carbohydrate – one gram equals 4 kcal Fat – one gram equals 9 kcal 	<ul style="list-style-type: none"> Have students bring in empty containers as examples of different foods that are based on the Recommended Dietary Allowances (RDA), macronutrients, vitamins, minerals, sugar, and salt. Scatter the empty containers around the gym area. Place students in groups and conduct a relay race to get the different examples for groups to create a healthy meal. Discuss each group's meal and have other groups give suggestions on better choices. Discussions on healthy snacks

Resources:

SHAPE America National Standards and Grade-Level Outcomes; <http://www.choosemyplate.gov/supertracker-tools/daily-food-plans.html>;
http://classroom.kidshealth.org/classroom/6to8/personal/nutrition/healthy_snacking.pdf;
http://classroom.kidshealth.org/classroom/6to8/personal/nutrition/school_lunch.pdf