

VA SOL Standard: 10.1 The student will demonstrate proficiency and apply the concepts and principles of exercise physiology, biomechanics and anatomy in a variety of lifetime activities that may include outdoor pursuits, fitness activities, dance and rhythmic activities, aquatics, selected individual performance activities and net/wall and target games in at least two self-selected, lifelong, skill-related physical activities.

ESSENTIAL UNDERSTANDINGS

- Development of mature movement patterns occurs during dynamic and unpredictable movement experiences.
- Understanding key elements of fundamental movement skills and movement concepts allows for efficient and effective mature movement that can be applied to a variety of activities.
- Outdoor pursuits provide excitement, challenge and a degree of risk while minimizing the importance of winning and losing.
- Lifetime recreational pursuits can increase self-esteem, reduce substance abuse, build family bonds and promote volunteerism, all at the same time.

Note: Society for Health and Physical Educators (SHAPE America) National Physical Education Standards Document 2014 recommends exclusion of invasion and fielding/striking games for high school outcomes because these activities require team participation and are less suited to lifelong participation.

<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>10.1 a) Demonstrate skill attainment in one or more lifetime activities.</p> <p>Suggested Learning Targets:</p> <p>I can analyze the skills needed to be successful in (specific activity: i.e.; cycling, disc golf, swimming, etc.) and demonstrate this by creating a rubric for the skills needed to perform the activity.</p> <p>I can perform the skills needed to be successful in (specific activity: i.e.; golf, tennis, bowling, etc.) and demonstrate my ability to be successful through a skill checklist.</p> <p>I can compile the benefits, equipment needed and safety concerns for (specific activity: i.e.; scuba diving, white water rafting, rock climbing, etc.) and demonstrate this through a graphic organizer.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Skill rubric: Perform each activity skill and movement correctly (self and/or peer analysis and feedback). • Written: Evaluation of activity skills and movements, their components and indicators for success. • Teacher observation with feedback. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Cognitive Assessment: Evaluation of activity skills and movements, their components and indicators for success 	<ul style="list-style-type: none"> • Content dependent upon activities offered to or selected by students. • Health benefits associated with lifetime recreational physical activity pursuits: <ul style="list-style-type: none"> ○ Reduced risks for chronic diseases and obesity. ○ Enhancement of the immune system. Active individuals have fewer hospital stays, fewer physician visits and use less medication resulting in lower annual direct medical costs. ○ Can increase life expectancy in measurable increments. ○ Can have positive effects on depression, stress and self-esteem. • Benefits derived from outdoor pursuits: <ul style="list-style-type: none"> ○ Self-confidence: Students with limited physical skills can experience a swift success in outdoor pursuits that leads them to believe in their ability to succeed. Example: Planning a travel route that is efficient and enjoyable for everyone. By understanding a map’s contours, students can not only avoid potential hazards (e.g.; moving water, exposure to lightning) but also conserve energy by avoiding unnecessary elevation gain or loss. By matching the difficulty of the route to the abilities of the group, the student supports the group while also experiencing a sense of accomplishment. Acquiring a new technical skill empowers and encourages continued 	<ul style="list-style-type: none"> • Teach lifetime outdoor pursuits through video clips, local instructors, field trips, or classroom instruction on the skills for activities such as: cycling, fishing, canoeing, hiking, kayaking, rock climbing, sailing, skiing, surfing, swimming, paddle boarding, scuba diving, white water rafting, etc. • Teach lifetime recreational sports skills for activities such as: tennis, golf, softball, volleyball, beach volleyball, badminton, table tennis, racquetball, bowling, handball, disc golf, duckpin bowling, etc. By doing the following – <ul style="list-style-type: none"> ○ Movement activities in isolated and dynamic movements for each skill. ○ Stations for skill practice. ○ Display cues with visuals. Examples:

	<ul style="list-style-type: none"> • Skill rubric(s): Skill components and application in unpredictable situations. Sample Rubric <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 appropriately and consistently (during unpredictable situations).</p> <p>2 (<i>Identify basic elements</i>) Performs critical elements in isolation.</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>involvement in an activity. Students are better poised to take on new challenges when they feel genuinely capable as a result of gaining new proficiencies.</p> <ul style="list-style-type: none"> ○ Mutual support: The emphasis on working together and respecting others necessitates a combination of interpersonal skills and appropriate communication. Example: Rock climbing involves cohesiveness and trust between climber and belayer. Good belayers provide climbers with the reassurance to push their physical limits by giving them the knowledge that they can do so without worry. Outdoor pursuits develop enthusiastic and contributing group members who view their roles as an important component of an effective team. ○ Fitness: There are different types of fitness in outdoor pursuits. Examples: Cycling up a steep incline provides the steady, sustained exercise recommended for cardiorespiratory endurance and weight control. Bouldering demands power, agility and flexibility. Cycling can be adapted to individual fitness levels and bouldering involves certain skills that can compensate for insufficient power (e.g.; relying more on the legs than the arms or using techniques for shifting weight and resting). ○ Excitement and fun: Whether perceived or real, an element of risk adds to the excitement of outdoor experiences. When students learn to cope successfully with risks, many of them become more autonomous and self-sufficient. Example: Caving often includes squeezing through cramped, shadowy passages that may be steep or slippery. This task can help students learn how to cope with fears and anxieties. Furthermore, if an activity isn't enjoyable, students will not willingly experience more of it. ○ Wonder of nature: Although climbing high peaks presents important challenges, an equally valuable experience may be sitting still in a quiet place away from the usual distractions and listening to the breeze or observing a vast landscape or delicate flower. 	<p>http://www.sparkpe.org/wp-content/uploads/backhand-throw-card_hs.pdf</p> <p>http://www.sparkpe.org/wp-content/uploads/forehand-throw-card_hs.pdf</p> <ul style="list-style-type: none"> ○ Display assessment rubrics when skills are introduced. ○ Example recreational lesson: http://www.pecentral.org/lessonideas/ViewLesson.asp?ID=4039#.V4zNabf6vcs <ul style="list-style-type: none"> • Teach lifetime fitness and dance classes through video clips, local instructors, field trips, or classroom instruction for fitness activities such as: yoga, Zumba, step aerobics, spin, kettlebell, cross training, Tabata interval training, Pilates, kickboxing, strength and conditioning, etc. Dance activities such as: jazz, hip hop, line, rumba, ballroom, etc.
--	--	--	---

Resources:

SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources
<http://www.doe.virginia.gov/instruction/physed/index.shtml>; www.ndya.org/uploads/Coaches_Manual_2009_Revised_Ch_6.docx

VA SOL Standard: 10.1 The student will demonstrate proficiency and apply the concepts and principles of exercise physiology, biomechanics and anatomy in a variety of lifetime activities that may include outdoor pursuits, fitness activities, dance and rhythmic activities, aquatics, selected individual performance activities and net/wall and target games in at least two self-selected, lifelong, skill-related physical activities.

ESSENTIAL UNDERSTANDINGS

- Successful movement includes knowledge of and ability to create, direct and stabilize a variety of movements in a variety of movement situations.
- Performing a variety of movements will lead to effective body management.

Note: Society for Health and Physical Educators (SHAPE America) National Physical Education Standards Document 2014 recommends exclusion of invasion and fielding/striking games for high school outcomes because these activities require team participation and are less suited to lifelong participation.

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>10.1 b) Apply and demonstrate knowledge of how movement is created, directed and stabilized in one or more lifetime activities.</p> <p>Suggested Learning Targets:</p> <p>I can analyze skills for (selected activity) in relation to how successful movement is created, directed and stabilized and demonstrate this through a summary with specific purpose.</p> <p>I can apply the ability to create, direct and stabilize movements for (selected activity) and then demonstrate the understanding through an exit ticket.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Written: Knowledge of how movement is created, directed and stabilized in a lifetime activity. Sample – Basic principles of biomechanics and physics of cycling such as: center of gravity (seat position) force production (standing versus sitting while climbing) optimal joint angles (saddle height) gear ratios (optimizing gears on a climb) and bike design (why the seat is positioned behind the crankset) etc. • Skill rubric (self and peer) <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Written: Evaluation of skills (breakdown of component parts to explain how successful movement is created, directed and stabilized); may include practice plan for component parts. 	<ul style="list-style-type: none"> • Movement is created by agility, power, coordination, reaction time, speed, force, motion, rotation and energy. • Movement is directed by type of muscle action that directs a movement (concentric, eccentric and isometric) the direction the body part moves relative to its joints (abduction, adduction, flexion and extension) levers, force, rotation, motion and planes of movement. • Movement is stabilized by balance (center of gravity and center of support, muscle actions) and planes of movement (sagittal plane – flexion and extension; frontal plane – adduction and abduction; transverse plane – internal and external rotation; multi-plane movements). 	<ul style="list-style-type: none"> • Movement activities in isolated and dynamic movements for each skill. • Opportunities to practice skill components. • Opportunities for students to engage in and/or demonstrate knowledge and skills in outdoor pursuits, fitness activities, dance and rhythmic activities, aquatics, selected individual performance activities, net/wall and target games. • Discussions on the biomechanical principles of a physical activity. Example – <ul style="list-style-type: none"> ○ Running 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. ○ A tennis ball hit with topspin will rebound faster and lower. A tennis ball hit with backspin will rebound slower and higher. ○ Cycling: *See written formative assessment example.

	<p style="text-align: center;">Sample Rubric</p> <ul style="list-style-type: none"> • Skill rubric: 4 (<i>Beyond what was taught</i>) Displays ability to create, direct and stabilize movement successfully and consistently with flow and smooth transitions between movements. 3 (<i>What was explicitly taught</i>) Displays ability to create, direct and stabilize movement successfully. 2 (<i>Identify basic elements</i>) Displays ability to create, direct and stabilize movement within discrete skill components. 1 (<i>With help/prompts/cues</i>) With teacher cues, student can demonstrate ability to create, direct and stabilize movement for isolated components. 		
<p>Resources: SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources http://www.doe.virginia.gov/instruction/physed/index.shtml</p>			

VA SOL: 10.1 The student will demonstrate proficiency and apply the concepts and principles of exercise physiology, biomechanics and anatomy in a variety of lifetime activities that may include outdoor pursuits, fitness activities, dance and rhythmic activities, aquatics, selected individual performance activities and net/wall and target games in at least two self-selected, lifelong, skill-related physical activities.

ESSENTIAL UNDERSTANDINGS

- Successful movement and effective body management includes knowledge of and ability to move in the planes of movement in dynamic situations.
- Performing a variety of movements will lead to effective body management.

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>10.1 c) Identify and demonstrate movement activities in each plane of movement (frontal, sagittal and transverse) and activities that occur in multiple planes.</p> <p>Suggested Learning Targets:</p> <p>I can analyze movement activities in (selected activity) to determine the planes of movement for individual skills and movements and demonstrate this by telling my partner/group.</p> <p>I can demonstrate ability to move in each plane of movement and in multiple planes of movement to be successful in (selected activity) and demonstrate comprehension through an exit ticket.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Written: List each plane of movement and movement activities that occur in each plane. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Written: Evaluation of skills (breakdown of component parts to explain movements in relation to planes of movement; may include practice plan for component parts. • Skill rubric <p style="text-align: center;">Sample Rubric</p> <p>4 (<i>Beyond what was taught</i>) Demonstrates ability to move in a variety of planes of movement successfully and consistently with flow and smooth transitions between movements in dynamic situations.</p> <p>3 (<i>What was explicitly taught</i>) Demonstrates ability to move in a variety of planes of movement successfully in dynamic situations.</p> <p>2 (<i>Identify basic elements</i>)</p>	<ul style="list-style-type: none"> • Sagittal plane is a vertical plane passing from the rear (posterior) to the front (anterior) dividing the body into left and right halves. It is also known as the anteroposterior plane. Most sport and exercise movements that are almost two-dimensional, such as running and long jumping, take place in this plane. Flexion and extension take place in the sagittal plane. • Frontal plane is also vertical and passes from left to right, dividing the body into posterior and anterior halves. It is also known as the coronal or the mediolateral plane. Abduction and adduction is often in the frontal plane. • Transverse/horizontal plane divides the body into top (superior) and bottom (inferior) halves. Any time there is rotation in a joint we are moving along the transverse plane. 	<ul style="list-style-type: none"> • Movement activities in isolated and dynamic movements for each skill. • Identify and perform movement activities in each plane. Examples: <ul style="list-style-type: none"> ○ Movements that involve forward and backward motion are sagittal plane movements. When a forward roll is executed, the entire body moves parallel to the sagittal plane. ○ Bowling and cycling are all sagittal plane movements. ○ Running occurs in three planes: <ol style="list-style-type: none"> 1. Sagittal: Flexion and extension are the movements. Flexion occurs in the legs at the beginning of the swing phase of running, when the limb is moving forward. Extension occurs in the stance limb, reaching its full extension. 2. Frontal: Abduction and adduction are the movements. Observing the waistline, abduction is movement away from the middle line of the body and adduction is movement towards the middle line. Frontal plane movement is also seen in the rear foot when the shoe strikes the ground this is termed ankle inversion and eversion. 3. Transverse: Rotation occurs in this plane between the pelvis, ribcage and shoulders.

	<p>Demonstrates ability to move in a variety of planes of movement within discrete skill components.</p> <p>1 (<i>With help/prompts/cues</i>) With teacher cues, student can demonstrate ability to move in some planes of movement in isolation.</p>		
--	---	--	--

Resources:

SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources <http://www.doe.virginia.gov/instruction/physed/index.shtml>; PE Central (key term – Dance) <http://www.pecentral.org/>

VA SOL Standard: 10.1 The student will demonstrate proficiency and apply the concepts and principles of exercise physiology, biomechanics and anatomy in a variety of lifetime activities that may include outdoor pursuits, fitness activities, dance and rhythmic activities, aquatics, selected individual performance activities and net/wall and target games in at least two self-selected, lifelong, skill-related physical activities.

ESSENTIAL UNDERSTANDINGS

- Equipment used in activities are designed to provide safety, help to mitigate issues of the environment and/or provide an advantage for more efficient movement.
- Equipment only works when it is used appropriately and properly at all times.

Note: Society for Health and Physical Educators (SHAPE America) National Physical Education Standards Document 2014 recommends exclusion of invasion and fielding/striking games for high school outcomes because these activities require team participation and are less suited to lifelong participation.

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>10.1 d) Demonstrate appropriate and proper use of equipment in one or more lifetime activities.</p> <p>Suggested Learning Targets:</p> <p>I can identify the proper equipment for use in (selected lifetime activity) and explain the importance of appropriate equipment use through a (selected assessment product: i.e.; foldable, videotape, etc.)</p> <p>I can demonstrate appropriate and proper use of equipment for (selected activity) and demonstrate this by performing the correct usage to my teacher.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Design and build an obstacle course using the outdoors and equipment that is assessable to most individuals outside of school. 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. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Written– Identification of a lifetime activity, its equipment and why it's appropriate use is important. <p style="text-align: center;">Sample Rubric</p> <p>4 (<i>Beyond what was taught</i>) Demonstrates appropriate and proper use of equipment consistently, maintaining control in dynamic and unpredictable situations.</p> <p>3 (<i>What was explicitly taught</i>)</p>	<ul style="list-style-type: none"> • Dependent upon activities. • Equipment for an activity may range from general items of clothing to special protective suits or apparatus. • It is essential to use the correct equipment and to make sure it is in good condition. 	<ul style="list-style-type: none"> • Opportunities for students to engage in and/or demonstrate knowledge and skills in outdoor pursuits, fitness activities, dance and rhythmic activities, aquatics, selected individual performance activities and net/wall and target games. <p>Example lessons:</p> <ul style="list-style-type: none"> ○ http://www.pecentral.org/lessonideas/ViewLesson.asp?id=21#.V49x8Lf6vcs ○ http://www.pecentral.org/lessonideas/ViewLesson.asp?ID=2983#.V4zKnLf6vcs • Discussions on proper equipment for lifetime activities. Example – Helmets for different activities such as cycling, rock climbing and canoeing. Why they should be worn, how to wear one and other points such as: wearing a helmet that is old and could crack on impact. ○ http://kidshealth.org/en/teens/safety-inline.html?WT.ac=ctg#catdieting ○ http://kidshealth.org/en/teens/sport-safety.html?WT.ac=ctg#catdieting

	<p>Demonstrates appropriate and proper use of equipment in dynamic situations.</p> <p>2 (<i>Identify basic elements</i>) Demonstrates appropriate and proper use of equipment in isolation.</p> <p>1 (<i>With help/prompts/cues</i>) With teacher cues, student can demonstrate ability to use equipment appropriately.</p>		
--	---	--	--

Resources:
 SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources
<http://www.doe.virginia.gov/instruction/physed/index.shtml>; <http://kidshealth.org/en/teens/safety-golf.html?WT.ac=ctg#catdieting>

VA SOL Standard: 10.2 The student will apply knowledge of biomechanics and anatomy, and analyze and evaluate the ability to move proficiently and efficiently in a variety of lifetime activities.

ESSENTIAL UNDERSTANDINGS

- There are two energy systems used during the process of respiration, anaerobic and aerobic respiration.
- The two energy systems are interdependent – dominate at different times depending on duration and intensity of the activity.

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>10.2 a) Explain how the body responds to energy needs for anaerobic and aerobic activities, to include fast and slow-twitch muscle fibers and anaerobic respiration (ATP-PC and Lactic Acid System) and aerobic respiration.</p> <p>Suggested Learning Targets:</p> <p>I can explain the energy needs for (400 meter run) from the start to the finish line in relation to the types of muscle fibers used and the energy systems used (anaerobic respiration [ATP-PC and Lactic Acid System] and aerobic respiration) and demonstrate this through an exit ticket.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Written: Describes anaerobic and aerobic energy systems; define fast- and slow-twitch muscle fibers (exit tickets, short answer assessments). <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Written: Explain how the body responds to energy needs for anaerobic and aerobic activities, to include fast and slow-twitch muscle fibers and anaerobic respiration (ATP-PC and Lactic Acid System) and aerobic respiration for at least one lifetime activity. 	<ul style="list-style-type: none"> • Responses to Anaerobic Exercise: <ul style="list-style-type: none"> ○ To immediately meet the sudden higher energy demand, stored ATP is the first energy source. This lasts for approximately 2 seconds. ○ The ATP-PC system can only last 8-10 seconds before PC stores are depleted. ○ The lactic acid system (Anaerobic glycolysis) must then take over as the predominant source of energy production; high intensity (but sub-maximal) exercise can last for between 3 and 5 minutes using this system. ○ If the exercise continues at a high intensity, oxygen is not available at a fast enough rate to allow aerobic metabolism to take over. The production of lactic acid will reach the point where it interferes with muscular function; this is called the lactate threshold. ○ Muscles begin to fatigue when ATP resynthesizes can no longer match demand. • Responses to Aerobic Exercise: <ul style="list-style-type: none"> ○ Due to the necessity of oxygen being present for aerobic metabolism, the first few minutes of low to moderate intensity exercise are powered by anaerobic metabolism. ○ Continued low to moderate intensity exercise is then fueled by carbohydrate and fat stores using aerobic metabolism. • The intensity and duration of exercise determines which fuel source is used: <ul style="list-style-type: none"> ○ Fat metabolism is a slow process and so can only be used as fuel for exercise at less than 60% VO₂ max. ○ Carbohydrate is a much faster fuel source and so can be used for exercise up to 80% (in trained individuals). 	<ul style="list-style-type: none"> • Incorporate instruction of energy systems during warm up activities, instant activities and skill practice during a variety of lifetime activities.

		<ul style="list-style-type: none">○ Carbohydrate stores within the muscle and liver can fuel exercise for up to 80 minutes. As carbohydrate stores get lower, the body has to rely more and more on fat stores.● The intensity of exercise, which can be maintained, drops as fat cannot supply the amount of energy.● Fast-twitch muscle fibers contract relatively rapidly, utilized especially in actions requiring maximum effort of short duration, such as sprinting.● Slow-twitch muscle fibers contract relatively slowly and is resistant to fatigue.	
--	--	---	--

Resources:

VDOE Physical Education Instructional Resources <http://www.doe.virginia.gov/instruction/phyped/index.shtml>;
http://www.teachpe.com/anatomy/energy_systems.php; <http://www.sport-fitness-advisor.com/energysystems.html>

VA SOL Standard: 10.2 The student will apply knowledge of biomechanics and anatomy and analyze and evaluate the ability to move proficiently and efficiently in a variety of lifetime activities.

ESSENTIAL UNDERSTANDINGS

- Movement skills and patterns may transfer from one activity to another; increasing the activities that a person can pursue for a lifetime.

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>10.2 b) Analyze movement activities for component skills and movement patterns for one or more lifetime activities.</p> <p>Suggested Learning Targets:</p> <p>I can analyze (selected activity) for the skills and movement patterns needed to be successful and demonstrate this through a (e.g.; group presentation, videotaping).</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Written: Skills needed to be successful; movement patterns needed to be successful • Videotaping for activity evaluation by: posing, defining the problems, collaborating, concluding, practicing and refining. Example: https://www.youtube.com/watch?v=Rv9onxrvxmg • Using videos (specific tool i.e.: iPads) to comprehend how a movement activity is performed and then performing what was seen on the video. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Cognitive/Written Assessment: Analysis of activity skills and movement patterns to be successful for chosen activity. 	<ul style="list-style-type: none"> • Division phases of movement: <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: the moment of contact in the tennis serve. ○ Follow-through: Body movements after the execution where the movement slows down such as: the golf club after the ball is struck. • 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"> • Refining movement specific skills (e.g.; balancing, turning, sculling, paddling...) for lifetime activities (e.g.; downhill skiing; canoeing, rowing, inline skating...) • Discussions on movement activities: Example: Yoga <ul style="list-style-type: none"> ○ Component skills: flexibility, balance, coordination, concentration, strength, endurance ○ Movement patterns: posture, body alignment, balance and movement in all planes of movement.

Resources:

SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources
<http://www.doe.virginia.gov/instruction/physed/index.shtml>; <https://www.youtube.com/watch?v=Rv9onxrvxmg>

VA SOL Standard: 10.2 The student will apply knowledge of biomechanics and anatomy and analyze and evaluate the ability to move proficiently and efficiently in a variety of lifetime activities.

ESSENTIAL UNDERSTANDINGS

- Almost all body movements involve the action of more than one muscle.
- Injuries can be reduced by planning resistance programs that address both agonist and antagonist muscle groups.

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>10.2 c) Identify and explain the relationship of opposing muscle groups (agonist/antagonist).</p> <p>Suggested Learning Targets:</p> <p>I can identify the agonist and antagonist muscle/muscle group for (e.g.; leg extension exercise/running) and explain to my partner the relationship between the muscle/muscle group for efficient and successful movement.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Written: Identify the muscle/muscle groups used in a variety of activities (which are the agonists and which are the antagonists). <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Cognitive/Written Assessment: Explanation of a variety of movements in relation to the agonist and antagonist muscle/muscle groups involved in the movement and how the muscle groups work to facilitate movement from start to finish. 	<ul style="list-style-type: none"> • Agonist: (prime mover) Muscle most directly involved in bringing about a movement by shortening with contraction to produce the movement. • Agonist: Muscle that can slow down or stop the movement. Example: Throwing– triceps act as an agonist, extending the elbow to accelerate the ball. As the elbow approaches full extension, the biceps act as an antagonist to slow down elbow extension and bring it to a stop, thereby protecting elbow structures from internal impact. • 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. • Resistance programs should include activities for both agonist and antagonist muscle groups to decrease injury by decreasing disparity of muscle strength (balance of muscle strength throughout a movement). Muscle balance does not always mean equal strength, proper ratio of strength, power, or muscular endurance of one muscle/muscle group to another muscle/muscle group. 	<ul style="list-style-type: none"> • Use visuals to depict muscles used in a variety of activities. • Incorporate knowledge concepts into movement activities.

Resources:

SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources

<http://www.doe.virginia.gov/instruction/physed/index.shtml>; Baechle, T. R. and Earle, R. W. (2008). Essentials of Strength Training and Conditioning (3rd ed.)

VA SOL Standard: 10.2 The student will apply knowledge of biomechanics and anatomy and analyze and evaluate the ability to move proficiently and efficiently in a variety of lifetime activities.

ESSENTIAL UNDERSTANDINGS

- Optimal performance and physical health requires planning for strength and conditioning.
- Meeting performance goals requires effort and monitoring.

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>10.2 d) Design and implement a program for strength and conditioning.</p> <p>Suggested Learning Targets:</p> <p>I can design and implement a program for strength and conditioning to meet my personal fitness needs to be successful in (specific activity) and demonstrate it using a rubric.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Pair/Share: Knowledge of warm-up, cool down, overload, specificity and progression. • List nutrients needed in a diet for an optimal strength and conditioning program. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Written: Strength and conditioning program/plan (assessment may occur at beginning, end and at interval times such as instructional quarter). <p style="text-align: center;">Sample Rubric</p> <p>4 (<i>Beyond what was taught</i>) All elements of score 3 and evaluates plan effectiveness to meet goals; identifying and addressing barriers.</p> <p>3 (<i>What was explicitly taught</i>) Program plan includes all elements for strength and conditioning (goals (short- and long-term) measures, timeline, work plans, intensity levels, time, documentation of daily activities, documentation of conditioning activities (evidence of use of RPE and pacing) reassessments, reflection, nutrient needs, revisions to goals and action plans as needed.</p>	<ul style="list-style-type: none"> • Muscular endurance vs. muscular strength. <ul style="list-style-type: none"> ○ Sets and Reps: Circuit training stations. Weight-training circuits use large muscle groups first and require 10 to 20 repetitions per station vs. strength-training programs that require up to five sets of one to eight repetitions. ○ Rest Intervals: Circuit training targets muscular endurance by employing short rest periods, of 20 to 30 seconds, between stations, or sets vs. strength-training that requires maximal effort lifting during each set. Therefore, strength-training programs use rest periods of two to five minutes between sets. Longer rest periods enable full muscular recovery while shorter periods do not. 	<ul style="list-style-type: none"> • Circuit training. • Review goal setting as appropriate. • Provide resources for strength and conditioning programs for a variety of activities. • Provide examples of strength and conditioning programs completed by students. • Specific lessons on the basic principles of training and examples for students to perform (e.g.; warm-up, cool down, overload, specificity and progression). <p>http://kidshealth.org/en/teens/strength-training.html?WT.ac=ctg#catdieting</p> <p>http://www.sparkpe.org/wp-content/uploads/basic-training-chest-card_hs.pdf</p> <p>http://kidshealth.org/en/teens/strength-training-vd.html?WT.ac=ctg#catdieting</p> <p>http://greatist.com/fitness/full-body-dynamic-warm-up</p>

	<p>2 (<i>Identify basic elements</i>) Plan includes goals, measures, work plans, intensity levels, some documentation of daily activities, documentation of conditioning activities, reassessments, reflection.</p> <p>1 (<i>With help/prompts/cues</i>) With teacher cues, student can demonstrate ability to create a plan with a goal and activities to meet the goal.</p>		<p>http://greatist.com/fitness/50-bodyweight-exercises-you-can-do-anywhere</p> <p>https://www.youtube.com/watch?nomobile=1&edufilter=E-nlA6VrvGA5Avu83FoomA&v=rEgAN8pgbB0</p> <ul style="list-style-type: none"> • Identify the nutrients needed in a diet for optimal muscle strength and endurance. Example: <ul style="list-style-type: none"> ○ Pre workout: A good supply of protein for tissue repair 1-2 hours before workout. ○ After workout: Go for carbohydrates to replace the energy in depleted muscles. Protein, though, is almost equally important in sealing in your workout's benefits and promoting recovery.
<p>Resources: SHAPE America National Standards and Grade-Level Outcomes; http://darebee.com/</p>			

VA SOL Standard: 10.2 The student will apply knowledge of biomechanics and anatomy and analyze and evaluate the ability to move proficiently and efficiently in a variety of lifetime activities.

ESSENTIAL UNDERSTANDINGS

- Healthy blood pressure is important to good personal health.
- Blood pressure reflects the force of the heartbeat and the resistance of the arteries to the pumping action of the heart.

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>10.2 e) Explain why blood pressure is an indicator of personal health.</p> <p>Suggested Learning Targets:</p> <p>I can evaluate my blood pressure and explain its importance for personal health and demonstrate this through a summary with specific purpose.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Blood pressure readings • List: Possible health consequences that can happen over time when high blood pressure is left untreated. Examples: Heart attack, heart disease, congestive heart failure, aortic dissection, stroke, atherosclerosis, kidney damage, vision loss, erectile dysfunction, memory loss, fluid in the lungs, angina and peripheral artery disease. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Written: Explain the importance of blood pressure as an indicator of personal health. 	<ul style="list-style-type: none"> • Systolic: Top number (highest of the two numbers) measures the pressure in the arteries when the heart beats/contracts. • Diastolic: The bottom number (lowest of the two numbers) measures the pressure in the arteries between heartbeats (when the heart muscle is resting between beats and refilling with blood). • Blood pressure: Measure of the force of blood pushing against blood vessel walls. The heart pumps blood into the arteries (blood vessels) which carry the blood throughout the body. High blood pressure, also called hypertension, is dangerous because it makes the heart work harder to pump blood to the body and contributes to hardening of the arteries, or atherosclerosis and to the development of heart failure. • BP rises with each heartbeat and falls when your heart relaxes between beats and can change from minute to minute with changes in posture, exercise, stress or sleep. • Blood pressure that is higher than normal leads to the following conditions: heart attack, stroke, heart failure, atherosclerosis (fatty buildup in the arteries) kidney damage, vision loss, erectile dysfunction. <table border="1" data-bbox="821 1138 1583 1409"> <thead> <tr> <th>Blood Pressure</th> <th>Systolic</th> <th></th> <th>Diastolic</th> </tr> </thead> <tbody> <tr> <td>Normal</td> <td>Less than 120</td> <td>and</td> <td>Less than 80</td> </tr> <tr> <td>Prehypertension</td> <td>120-139</td> <td>or</td> <td>80-89</td> </tr> <tr> <td>High Blood Pressure (Hypertension) Stage 1</td> <td>140-159</td> <td>or</td> <td>90-99</td> </tr> <tr> <td>High Blood Pressure (Hypertension) Stage 2</td> <td>160 or higher</td> <td>or</td> <td>100 or higher</td> </tr> <tr> <td>Hypertensive Crisis Emergency care needed</td> <td>Higher than 180</td> <td>or</td> <td>Higher than 110</td> </tr> </tbody> </table>	Blood Pressure	Systolic		Diastolic	Normal	Less than 120	and	Less than 80	Prehypertension	120-139	or	80-89	High Blood Pressure (Hypertension) Stage 1	140-159	or	90-99	High Blood Pressure (Hypertension) Stage 2	160 or higher	or	100 or higher	Hypertensive Crisis Emergency care needed	Higher than 180	or	Higher than 110	<ul style="list-style-type: none"> • Engage School Public Health nurse and/or CTE academy programs to explain blood pressure, demonstrate how to measure and help students' measure blood pressure. • Discuss how risk increases based on factors such as: age, heredity (including race) gender, smoking, weight, high cholesterol, diabetes, physical inactivity, salt intake, alcohol intake and stress. • Discuss high blood pressure (hypertension) and the relationship to the health of the heart such as: When blood pressure measures 140/90 or greater on two or more occasions, it is the heart's way of telling you that it is working harder than it should.
Blood Pressure	Systolic		Diastolic																								
Normal	Less than 120	and	Less than 80																								
Prehypertension	120-139	or	80-89																								
High Blood Pressure (Hypertension) Stage 1	140-159	or	90-99																								
High Blood Pressure (Hypertension) Stage 2	160 or higher	or	100 or higher																								
Hypertensive Crisis Emergency care needed	Higher than 180	or	Higher than 110																								

Resources:

SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources

<http://www.doe.virginia.gov/instruction/physed/index.shtml>; American Heart Association www.heart.org; <http://kidshealth.org/en/teens/hypertension.html>

<http://www.heart.org/HEARTORG/Conditions/HighBloodPressure/AboutHighBloodPressure/Understanding-Blood-Pressure>

[Readings_UCM_301764_Article.jsp#.VwKBBLfmrCs](#)

VA SOL Standard: 10.2 The student will apply knowledge of biomechanics and anatomy and analyze and evaluate the ability to move proficiently and efficiently in a variety of lifetime activities.

ESSENTIAL UNDERSTANDINGS

- The RPE scale is used to measure the intensity of your conditioning plan.
- Rating of perceived exertion (RPE) is a subjective rating system for activity intensity based on general fatigue and helps individuals focus on the feelings of exertion.

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>10.2 f) Apply rate of perceived exertion (RPE) and pacing to a conditioning plan that meets the needs of one or more lifetime activities.</p> <p>Suggested Learning Targets:</p> <p>I can plan for, monitor and record my pacing during conditioning activities using RPE and time/distance/other measures to meet my plan goals for (my personal fitness needs/to be successful in [specific activity]) and demonstrate this through a graphic organizer.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Written: Review of vocabulary and RPE scale(s); drafts of strength and conditioning program/plan; documentation of action steps taken; documentation of conditioning activities and RPE/pacing. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Conditioning plan dependent upon lifetime activities offered to or selected by students. Application of RPE and pacing to a conditioning plan for one or more lifetime activity. 	<ul style="list-style-type: none"> • Rate of perceived exertion (RPE) <ul style="list-style-type: none"> ○ Scale(s) selection such as: <ol style="list-style-type: none"> 1. 0-10 scale – With 0 (nothing at all) would be how you feel when sitting in a chair and 10 (very, very heavy) is how you feel at the end of a very difficult activity. 2. <u>Borg Scale (CDC)</u> <ul style="list-style-type: none"> 6 No exertion at all 7 Extremely light (7.5) 8 9 Very light 10 11 Light 12 13 Somewhat hard 14 15 Hard (heavy) 16 17 Very hard 18 19 Extremely hard 20 Maximal exertion • Pacing • Conditioning activities 	<ul style="list-style-type: none"> • Engage in a variety of activities to understand pacing and RPE. • Plan elements that may include: goals (short- and long-term) measures, timeline, work plans, intensity levels, time, documentation of daily activities, documentation of conditioning activities (evidence of use of RPE and pacing) reassessments, reflection, revisions to goals and action plans as needed. • <u>Intensity Levels (such as)</u> <ul style="list-style-type: none"> ○ Intensity Level 1 - Not moving (seated) ○ Intensity Level 2 - Slow (walking) ○ Intensity Level 3 - Medium (skipping, galloping) ○ Intensity Level 4 – Fast (jogging/running) ○ Intensity Level 5 - Very fast (sprinting)

Resources:

SHAPE America National Standards and Grade-Level Outcomes

<http://darebee.com/> ; <http://www.webmd.com/lung/copd/borg-scale-of-perceived-exertion-with-exercise>

VA SOL Standard: 10.3 The student will demonstrate the ability to apply basic principles of training and scientific concepts and principles to evaluate current fitness behaviors and identify strategies needed for health-enhancing fitness for the present and into adulthood.

ESSENTIAL UNDERSTANDINGS

- Physical fitness is a lifelong pursuit that affects personal health and success/achievement of current and future goals.
- Evaluating and monitoring fitness and activity levels should be ongoing and adaptable for individual needs and ease throughout life.

<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>10.3 a) Create a fitness and activity plan for the present and a potential plan for the future (postsecondary education, college/career) to address the health-related components of fitness.</p> <p>Suggested Learning Targets:</p> <p>I can evaluate my current fitness and physical activity status by performing fitness tests for each of the components of fitness and identify needs through completing a data analysis.</p> <p>I can create a fitness and activity plan for the present that addresses the health-related components of fitness and demonstrate this through a rubric.</p> <p>I can create a fitness and activity plan for the future that addresses the health-related components of fitness and demonstrate this through a collaborative poster.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • List the essential components of a personal fitness and activity plan (goals, FITT principle and physical activity strategies). • Pair/Share: Discuss activities for the future that apply to the health-related components of fitness. Examples – <ul style="list-style-type: none"> ○ Cardiovascular Endurance: Fast pace walking, cycling, skating, swimming and dancing. ○ Flexibility: Vacuuming, stretching exercises, Yoga. ○ Muscular strength and endurance: Lifting and carrying groceries, climbing stairs, yard and garden work, exercises like abdominal curl ups. • Written: Assessments of personal fitness and physical activity levels; identify strategies to meet needs (present and future); identify available technology to assess and monitor personal fitness and physical activity 	<ul style="list-style-type: none"> • Review previous year’s vocabulary and content as appropriate such as FITT, SOP • Health-related components of fitness. <ul style="list-style-type: none"> ○ Aerobic exercise to strengthen and keep your heart healthy. ○ Strength exercises to keep other muscles of the body in good condition and help your sense of balance. ○ Stretching exercises to keep muscles flexible. • Physical activity refers to the guideline of 60 minutes a day of moderate to vigorous physical activity. • While the “freshman 15” is often an exaggeration, the average teenager enters college at a healthier weight and baseline health status than when they depart. While one-third of Children and teenagers are overweight or obese, two-thirds of adults are overweight or obese. For many, it is during college that this transition from a healthy weight to an unhealthy weight occurs. • Performance-related fitness is linked to athletic performance (for example: a 50-yard dash time or the ability to maneuver around obstacles quickly) and is linked to speed, reaction time and coordination. • Health-related fitness is linked to fitness components that may lower risks such as high blood pressure, diabetes, or low back pain and includes the following components: <ul style="list-style-type: none"> ○ Aerobic fitness - Ability of the heart and lungs to deliver blood to muscles. ○ Muscular strength and endurance - Enough to do normal activities easily and protect the low back. ○ Flexibility - Ability to move your many joints through their proper range of motion. 	<ul style="list-style-type: none"> • Complete Virginia Wellness testing (FitnessGram) in conjunction with any additional tests or opportunities to gather personal fitness data throughout the year such as: internet, software data-management systems, heart-rate monitors, pedometers, skinfold calipers, etc. • Stations targeting specific health-related fitness components. • Assess physical activity levels (time and intensity levels). • Evaluate (self/peer) a personal fitness plan in relation to the FITT principle.

	<p>levels.</p> <ul style="list-style-type: none"> • Skill checklist for use and application of evaluation tools. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Written: Evaluation of personal fitness and physical activity levels; personal fitness plans; personal activity plans; describe technology applications; explain plan implementation for future fitness and activity needs. 	<ul style="list-style-type: none"> ○ Body composition - not too much body fat, especially around the waist. • Addressing fitness components for needs beyond high school: <ul style="list-style-type: none"> ○ Muscular Strength and Endurance – Critical to both your health and ability to carry out daily activities, such as performing household tasks (yard work, carrying groceries) or job-related tasks (lifting or moving heavy objects). ○ Flexibility – For good joint function as well as being able to walk, lift and step normally. The ability to move a joint through its normal range of motion is affected by the condition of the joint itself (for example: arthritis). A short (tight) muscle limits the joints ability to move normally. If the hamstrings are too short, they limit the ability of the pelvis to tilt, which directly affects the lower (lumbar) spine and can lead to low back pain. ○ Body Composition – BMI is related to the risk of disease and death. The score is valid for both men and women, but it does have some limitations such as: <ul style="list-style-type: none"> - It may overestimate body fat in athletes and others who have a muscular build. - It may underestimate body fat in older persons and others who have lost muscle mass. <p>Waist Circumference can serve as another indicator for some health risks for individuals who may have a BMI classification of normal or overweight (a BMI score between 18.5 and 29.9). A high waist circumference is associated with an increased risk for type 2 diabetes, elevated blood lipids (fats like cholesterol and triglycerides) hypertension and cardiovascular disease in patients with a BMI between 25 and 34.9. Recording changes over time in waist circumference is important since it can change even when body weight remains the same.</p>	
--	--	---	--

Resources:

SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources
<http://www.doe.virginia.gov/instruction/physed/index.shtml>; http://www.heart.org/HEARTORG/Educator/Educator_UCM_001113_SubHomePage.jsp
<http://www.cdc.gov/physicalactivity/basics/adding-pa/index.htm>; http://www.cdc.gov/physicalactivity/basics/older_adults/index.htm
<http://www.cdc.gov/physicalactivity/worksites-pa/toolkits/walkability/index.htm>; <https://www.adultfitnessstest.org/>
http://www.heart.org/HEARTORG/Conditions/More/CardiacRehab/Develop-a-Physical-Activity-Plan-for-You_UCM_307380_Article.jsp#.VwJ-Zrfmrcr
https://www.acefitness.org/acefit/fitness_programs_core_workout.aspx?workoutid=17; <https://www.youtube.com/watch?v=qDnA9TaVZxg>

VA SOL Standard: 10.3 The student will demonstrate the ability to apply basic principles of training and scientific concepts and principles to evaluate current fitness behaviors and identify strategies needed for health-enhancing fitness for the present and into adulthood.

ESSENTIAL UNDERSTANDINGS

- Technology is a powerful instructional tool, an assessment tool and an advocacy tool.
- Relevant fitness data helps a good planner know when and where to make adjustments to improve physical 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>10.3 b) Use a variety of resources, including available technology, to analyze current fitness and activity levels and to improve physical activity and personal fitness.</p> <p>Suggested Learning Targets:</p> <p>I can identify and use available technology to evaluate and monitor my fitness and activity and demonstrate it through reflective writing on the findings generated through the different resources used and goals developed for improvement.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • List resources available to analyze current fitness and activity levels. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • *Refer to 10.3.a “fitness and activity plan” to incorporate a reflection on resources used to analyze current fitness and activity levels. How the different resources maintained/improved physical activity and personal fitness. 	<ul style="list-style-type: none"> • Accelerometer: An electromechanical device used to measure acceleration forces. Such forces may be static, like the continuous force of gravity or, as is the case with many mobile devices, dynamic to sense movement or vibrations; ability to distinguish between walking and running on level terrain, but currently do not accurately estimate other activities such as stationary biking, elliptical trainer. • Heart rate monitors: Wireless chest strap that sends continuous data to a monitor (watch) worn on the wrist; pulse monitors may be worn on the wrist that require you to put your finger on a certain spot to take your pulse; may have indicators worn on shoes or have GPS capability to map routes or distance; fitness trackers provide multiple target zones, calorie counters, speed/distance. • Pedometers– tracks steps taken by indicating each time the wearer’s hips move or some models can track foot movement • Calculator sites such as: For BMI – http://www.acefitness.org/acefit/healthy_living_tools_content.aspx?id=1 Calories burned – http://www.acefitness.org/acefit/healthy_living_tools_content.aspx?id=9 One repetition maximum or 1RM in weight training – http://www.acefitness.org/acefit/healthy_living_tools_content.aspx?id=8 	<ul style="list-style-type: none"> • Independently participate in physical activity monitoring using resources that may include pedometers, accelerometers, personal fitness tracking devices, heart rate, appropriate apps, BMI calculations, activity logs and fitness and activity planning. • Demonstration of measures and analysis of results of measures for heart rate, training zones and exercise intensity. • Class discussion and demonstration of technology in lifetime activities to include outdoor pursuits and how they improve the performance of the activity (e.g.; use of a GPS device when hiking or backpacking). • 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. <p>Note: It is an inappropriate practice to grade students on fitness test results.</p>

Resources:

SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources

<http://www.doe.virginia.gov/instruction/physed/index.shtml>

http://www.heart.org/HEARTORG/Educator/Educator_UCM_001113_SubHomePage.jsp

VA SOL Standard: 10.3 The student will demonstrate the ability to apply basic principles of training and scientific concepts and principles to evaluate current fitness behaviors and identify strategies needed for health-enhancing fitness for the present and into adulthood.

ESSENTIAL UNDERSTANDINGS

- Moderate and vigorous physical activity is needed for energy balance and physical health.
- Fitness adds years to your life and it conditions muscles, tendons, ligaments and bones to help fight osteoporosis; keep your body more limber and stabilize your joints, thus lowering the risk of everyday 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>10.3 c) Identify fitness needs to prevent health concerns in the present and into the future.</p> <p>Suggested Learning Targets:</p> <p>I can identify any current health concerns (may include potential future health concerns such as inherited or familial) that can benefit from or be improved by physical activity and list them in an exit ticket.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Written: Identify any current health concerns or potential future health concerns. (Note: Let students know that they are not to share personal health concerns and may use a general health concern such as cardiovascular disease, skin cancer); explain how they feel before and after physical activity; identify activities that are enjoyed with others. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Written: Explain the impact of physical activity and personal fitness in preventing health concerns for the present and into the future; explain the connection between physical activity and emotional and social well-being. 	<ul style="list-style-type: none"> • Familial– Tending to occur in more members of a family than expected by chance alone. • Inherited– To receive from a parent or ancestor by genetic transmission. • Risks with aging: Examples such as falling – <ul style="list-style-type: none"> ○ Try to do balance training on at least 3 days a week and do standardized exercises from a program that's been proven to reduce falls. These exercises might include backward walking, sideways walking, heel walking, toe walking and practicing standing from a sitting position. Tai Chi, a form of martial arts developed in China, may also help with balance. ○ Strong leg and hip muscles help to reduce the risk of falls, a cause of considerable disability among older adults. To prevent possible falls, participate in resistance training at least two days per week, making sure to exercise all major muscle groups through a full range of motion. End each workout with stretching exercises to help maintain your mobility and range of motion and decrease your risk for injury. • Regular exercise helps control the following: blood pressure, body weight, cholesterol levels, cuts the risk for hardening of the arteries, heart attack, stroke, arthritis, diabetes, improves digestion, manages stress better, aids in better sleep and is good for managing low-back pain. • Adults older than 50 years who do not perform resistance training lose nearly 1/4 pound of muscle mass per year. Since muscle mass is directly related to 	<ul style="list-style-type: none"> • Research conducted outside of class to explore health concerns and strategies such as: Preventive effects of physical activity, which include: <ul style="list-style-type: none"> ○ Lowering the risk of developing chronic diseases such as heart disease and type 2 diabetes. ○ Healthy weight or weight loss strategies. • Discuss future fitness needs and how safety becomes more important as we age for example: The best cardiovascular exercises for seniors are non-jarring, such as walking, swimming and cycling.

		how many calories your body burns each day, resistance training is important for weight management.	
--	--	---	--

Resources:

SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources

<http://www.doe.virginia.gov/instruction/physed/index.shtml>

<http://www.cdc.gov/>

VA SOL Standard: 10.3 The student will demonstrate the ability to apply basic principles of training and scientific concepts and principles to evaluate current fitness behaviors and identify strategies needed for health-enhancing fitness for the present and into adulthood.

ESSENTIAL UNDERSTANDINGS

- Personal, social, economic and environmental factors all play a role in physical activity levels; so understanding the barriers to and facilitators of physical activity is important to ensure the effectiveness of interventions and other actions to improve levels of physical activity.

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>10.3 d) Identify the impact of life choices, economics, motivation, accessibility, exercise adherence and participation in physical activity in college or career settings.</p> <p>Suggested Learning Targets:</p> <p>I can describe the factors (life choices, economics, motivation, accessibility, exercise adherence and participation) that may impact my participation in physical activity after high school (college and/or career) and how to overcome those factors/possible barriers and demonstrate this through a (i.e.; foldable, graphic organizer, etc.)</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> Written: Create a 30 minute lunch workout. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> Written: Evaluate the factors and influences that help and that create barriers to participating in physical activity in the present; forecast those factors and influences into the future. Example – Barriers could include: <ul style="list-style-type: none"> Lack of local facilities and spaces for physical activity such as: walkable neighborhoods (e.g.; street connectivity, pedestrian access, sidewalks) and the presence of parks and green spaces). Lack of workplace or organizational policies to support physical activity, affordability of programs, competing priorities and design of physical spaces. Social awkwardness, no exercise companions, competing priorities (e.g.; family, friends, other activities). 	<p>Improving college/career choices that can impact health:</p> <ul style="list-style-type: none"> Head to class/office prepared by packing healthy snacks so you won't turn to vending machines. Eat some foods less often for example pizza. This can be a "sometime" food eaten in smaller amounts and less frequent. Instead of 4 slices of pizza, consider 2 slices of pizza, a glass of water and a side salad. Drink water it should be your first choice. Sodas, caffeine-loaded energy drinks and sports drinks are a major source of added sugar and calories – at the very least, consume these in moderation. Get your caffeine fix from plain coffee or unsweetened iced tea. Grab a friend and get moving. College/office can be a very social experience, so make a friend and do something active together. <p>Ways to increase physical activity throughout your day:</p> <ul style="list-style-type: none"> Take the stairs instead of the elevator. Park farther away from the front door. Stand instead of sitting (this burns more calories). Take a walk on your lunch break. Walk or bike to your destination instead of driving. Sit on an exercise ball at your desk instead of a chair (this builds core strength). Do stretches or ride a stationary bike while watching TV. During commercial breaks do abdominal crunches, jumping jacks, push-ups, or simply get up and walk around. Take a 10 minute walk in the morning and/or evening. Take your dog for a walk. Keep hand weights at your desk. Do bicep and triceps exercises while on phone calls. Turn on the music and dance around the house. Rake leaves instead of using a leaf blower. 	<ul style="list-style-type: none"> Students reflect on what they are looking for in choosing post-secondary goals– what do colleges and universities offer for personal fitness and physical activity, what do their career choices / businesses / organizations offer for support? Discuss advantages of group fitness classes such as: <ul style="list-style-type: none"> Social support. The feeling of being part of something bigger. Camaraderie is forged in group fitness classes. Group fitness classes exude positivity and serve as a welcome invitation for people of all different ages, backgrounds and ability levels to come together in one inclusive experience to move with passion and intention, all without judgement or expectation. Identifying accessibility in connection to participation in physical activity. Example: Walkability is the idea of quantifying the safety and desirability of the walking routes. At work/college, these can be streets and sidewalks in

	<ul style="list-style-type: none"> ○ Physical, cognitive and mental health (e.g.; physical health status, frailty, chronic pain or discomfort, chronic diseases, depression, fatigue and low energy) self-perception (e.g.; values, culture, self-confidence, negative stereotypes and unattainable expectations) lifestyle (e.g. apathy, isolation, independence, socio-economic status, enjoyment of physical activity). 	<ul style="list-style-type: none"> ● Walk through your golf game instead of driving a cart. ● Get up and walk around after sitting for 30 minutes. ● Wear a good quality pedometer and aim for 10,000 steps per day. <p>The cost of being unhealthy in the work force:</p> <ul style="list-style-type: none"> ● Absenteeism and lost productivity from employee illness, injury, obesity or chronic conditions. One study reports that obesity alone has been estimated to cost employers almost \$2,500 per employee per year, including direct medical expenditures and absenteeism (Steps to Wellness– Physical Activity in the Workplace; CDC). 	<p>between buildings on your campus or city blocks if you work in a downtown area.</p> <p>*Meeting this standard may be combined with 10.3.a and 10.3.b to plan strategies to address present and future barriers to physical fitness and physical activity.</p>
--	---	---	--

Resources:

SHAPE America National Standards and Grade-Level Outcomes

<http://www.acefitness.org/fitness-fact-article/3644/healthy-eating-myplate-on-campus/>; <http://kidshealth.org/en/teens/motivation.html?WT.ac=ctg#catdieting>
https://www.acefitness.org/acefit/fitness_programs_core_workout.aspx?workoutid=17

VA SOL Standard: 10.3 The student will demonstrate the ability to apply basic principles of training and scientific concepts and principles to evaluate current fitness behaviors and identify strategies needed for health-enhancing fitness for the present and into adulthood.

ESSENTIAL UNDERSTANDINGS

- Physical fitness is linked very closely to “health” as it is to do with your general ability to function and carry out everyday activities without excessive fatigue.
- Being physically fit can help you have increased energy, handle more stress and enhance your performance in any job.

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>10.3 e) Describe components of health-related fitness in relation to one career goal.</p> <p>Suggested Learning Targets:</p> <p>I can name a career goal, and describe the importance of health-related fitness to achieving success towards that goal and/or success during that career and demonstrate this through a summary paragraph.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Written: Describe the importance of health-related fitness for a post-secondary career goal. • Pair/Share: Discuss the need to be “fit” for jobs such as: firefighter, policeman, construction worker, etc. • List ways to stay fit when working a job that requires sitting at a desk all day. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Choose a future career and describe what components of fitness will be needed to perform the career and what components of fitness will be needed to stay healthy and fit throughout the career. 	<ul style="list-style-type: none"> • Accumulate 60 minutes of physical activity every day to stay healthy or improve health. Recommendations: <ul style="list-style-type: none"> ○ Endurance: Perform 30 minutes or more of moderate-intensity physical activity on most days of the week for cardiovascular health. The 30 minutes need not be continuous. Time required for improvements depends on effort. Examples include: Fast pace walking, cycling, skating, swimming and dancing. ○ Flexibility: Flexibility training should be performed daily, including stretches for all major muscle groups, in order to maintain mobility. Perform gentle reaching, bending and stretching to keep muscles relaxed and joints mobile. Examples include: Vacuuming, stretching exercises, Yoga. ○ Strength: Performing 1 set of 8 to 12 repetitions of resistance training for the entire body is necessary to maintain and develop muscular strength and endurance. On 2 to 4 days a week, perform resistance exercise to strengthen muscles and bones and improve posture. Examples include: Lifting and carrying groceries, climbing stairs, yard and garden work, exercises like abdominal curl ups. ○ Body composition is the proportion of fat-free mass (muscle, bone, blood, organs and fluids) to fat mass (adipose tissue deposited under the skin and around organs). Some of the long-term adaptations of improving body composition are decreased risk of cardiovascular disease, improved basal metabolic rate, improved bodily function and improved BMI. 	<ul style="list-style-type: none"> • Discussions on health-related fitness in connection to future careers. Example, military career: Going through basic training that separates the fit from the unfit. For example, the Army expects all men and women to score high on a fitness test that includes running at least two miles and doing a minimum number of push-ups and sit-ups within two minutes. Advanced training for careers in units such as the Navy SEALs or Army Rangers can require additional, more intense, physical training that incorporates swimming, climbing, five-mile runs and obstacle courses. • Relays or obstacle courses that imitate physical challenges that must be met for a career. For example: Carrying a medicine ball running up flights of stairs to imitate firefighters.

Resources:

SHAPE America National Standards and Grade-Level Outcomes <http://www.humankinetics.com/excerpts/excerpts/the-importance-of-health-fitness-and-wellness>

VA SOL Standard: 10.3 The student will demonstrate the ability to apply basic principles of training and scientific concepts and principles to evaluate current fitness behaviors and identify strategies needed for health-enhancing fitness for the present and into adulthood.

ESSENTIAL UNDERSTANDINGS

- Aerobic physical activity is positively associated with cognition, academic achievement, behavior and psychosocial functioning outcomes.
- Physical education enhances achievement in other areas of learning and is closely inter-related with intellectual and social development by building self-esteem, motivation, co-operation and concentration; thus making it an important part of a balanced curriculum.

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>10.3 f) Explain the impact of physical activity on emotional and social well-being for the present and into the future.</p> <p>Suggested Learning Targets:</p> <p>I can explain the connection between physical activity and emotional and social well-being by (i.e.: group presentation, exit ticket, sharing to a partner, etc.).</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Oral: Partner discussions on the impact of physical education beyond the school years and the potential impact of physical education on public health. • Written: Example: How does involvement in physical activities improve the learning performance of young people, encourage school attendance and help develop a desire to succeed academically. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Explain the connection between physical activity and emotional and social well-being. 	<ul style="list-style-type: none"> • Worksite wellness programs that include a physical activity component which helps maintain a healthier workforce with benefits such as: <ul style="list-style-type: none"> ○ Reduced direct costs associated with health care expenses. ○ Increased employee productivity. ○ Reduced absenteeism. ○ Increased work morale. • Health benefits of physical activity both now and into the future: <ul style="list-style-type: none"> ○ A chance to have fun and be with friends and family. ○ A chance to enjoy the outdoors. ○ A chance to improve personal appearance. ○ A chance to improve fitness so one can participate in more intensive physical activity or sporting events. ○ Certain benefits such as feeling more energetic. • Recommended adult physical activity: <ul style="list-style-type: none"> ○ Low activity: Fewer than 150 minutes (2 hours and 30 minutes) of moderate-intensity physical activity a week or the equivalent amount (75 minutes, or 1 hour and 15 minutes) of vigorous-intensity activity. ○ Medium activity: 150 minutes to 300 (5 hours) minutes of moderate-intensity activity a week (or 75 to 150 minutes of vigorous-intensity physical activity a week). ○ High activity: More than the equivalent of 300 minutes of moderate-intensity physical activity a week. • Older adult physical activity: At least 150 minutes (2 hours and 30 minutes) of moderate-intensity physical activity a week, or an equivalent amount (75 minutes or 1 hour and 15 minutes) of vigorous-intensity activity. Older adults can also do an equivalent amount of activity by combining moderate- and vigorous-intensity activity. 	<ul style="list-style-type: none"> • Discuss the numerous health benefits related to physical activity such as: a lower risk of chronic diseases, diabetes, heart disease, stroke, some cancers, weight control and depression. • Discuss the importance of worksite wellness programs that are often seen as a central component of an attractive employee compensation and benefits package that can also be used as a recruitment and retention tool to attract and keep high quality employees.

Resources:

SHAPE America National Standards and Grade-Level Outcomes; <http://www.cdc.gov/physicalactivity/worksites-pa/index.htm>
<http://health.gov/paguidelines/guidelines/chapter1.aspx> ; <http://health.gov/paguidelines/guidelines/chapter5.aspx>

VA SOL Standard: 10.4 The student will demonstrate appropriate behaviors in all physical activity settings and the social skills needed to be a contributing member of society.

ESSENTIAL UNDERSTANDINGS

- Rules are important for the safety of all participants.
- Achieving goals with others requires cooperation.
- Through participation in game-play physical activities, young people learn about the importance of key values such as: honesty, teamwork, fair play, respect for themselves and others and adherence to rules.

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>10.4 a) Explain the importance of and demonstrate communication skills in physical activity settings.</p> <p>Suggested Learning Targets:</p> <p>I can explain why communication is important to enjoyable and successful participation in (selected activity) to a group/partner.</p> <p>I can show effective communication skills for (selected activity) in a variety of situations and demonstrate them to the teacher.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Written– Describe the verbal and nonverbal communications that occur in the selected activity. Describe how “reading” the nonverbal communication of opponents (such as body movements) can increase success in the selected activity. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Written– Evaluation of communication strategies appropriate for selected activity. <p style="text-align: center;">Sample Rubric</p> <p><i>4 (Beyond what was taught)</i> Demonstrates ability to adapt and adjust movements based on the nonverbal cues of others in dynamic and unpredictable situations.</p> <p><i>3 (What was explicitly taught)</i> Demonstrates appropriate and proper use of verbal and nonverbal communication skills appropriate to selected activity in dynamic situations.</p> <p><i>2 (Identify basic elements)</i> Demonstrates appropriate and proper use of communication in isolation.</p> <p><i>1 (With help/prompts/cues)</i> With teacher cues, student can demonstrate communication skills.</p>	<ul style="list-style-type: none"> • Verbal and nonverbal communication strategies – may include “reading” body movements of others and masking own body movements to confuse opponents 	<ul style="list-style-type: none"> • Any outdoor pursuit activities, fitness activities, dance and rhythmic activities, aquatics, selected individual performance activities and net/wall and target games activities that utilize communication strategies.

Resources:

SHAPE America National Standards and Grade-Level Outcomes;VDOE Physical Education Instructional Resources

<http://www.doe.virginia.gov/instruction/phyped/index.shtml>

VA SOL Standard: 10.4 The student will demonstrate appropriate behaviors in all physical activity settings and the social skills needed to be a contributing member of society.

ESSENTIAL UNDERSTANDINGS

- Positive social interactions affect student's ability to be a contributing member of society.
- Appreciating differences in others promotes positive social interactions.

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>10.4 b) Explain the importance of critical thinking and problem solving for current and future health and fitness.</p> <p>Suggested Learning Targets:</p> <p>I can explain why it is important to know your health status and how to access accurate and reliable health information and services and demonstrate that through (i.e.: exit ticket, explaining to a partner/group).</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Written– Describe the role of critical thinking for current health and fitness. • Teacher observation of positive interdependence in which students all need to do their assigned specific roles and duties in order for a task to be completed. • Oral: Partner discussion on how a lack of unity affects problem solving within a group. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Written – Explain how to address a selected health or fitness concern; where to obtain information or services and how to assess the information or service for accuracy and reliability. 	<ul style="list-style-type: none"> • Create plans or strategies to address health and fitness needs, access accurate and reliable information, and evaluate resources for providers of health services and products. • Online sites such as: http://www.cdc.gov/physicalactivity/worksite-pa/toolkits/walkability/audit_tool.htm <p>A worksite audit tool from the CDC designed to broadly assess pedestrian facilities, destinations and surroundings along and near a walking route and identify specific improvements that would make the route more attractive and useful to pedestrians.</p> <ul style="list-style-type: none"> • Lack of cohesion between races, sexes and cultures is due to mistrust, stereotyping and more within-culture conversation and language problems. When these problems are not paid attention to it may lead to an inability to endorse ideas, the inability to gain agreement on decisions and inability to take united action. 	<ul style="list-style-type: none"> • Addressing barriers to physical activity at worksites or in the community. Example: Walking paths that provides individuals/employees with the opportunity to walk may have barriers such as not having time to walk, concerns about neighborhood safety, lack of social support or attractiveness of the walking environment. • Introduce a sample of a worksite walkability audit from the CDC. • Participate in activities that use resistance, refusal, negotiation, collaboration and conflict resolution skills, to maximize personal potential and to teach the importance of building and maintaining healthy relationships.

Resources:

SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources

<http://www.doe.virginia.gov/instruction/physed/index.shtml>; <http://www.cdc.gov/physicalactivity/worksite-pa/index.htm>

<http://www.cdc.gov/physicalactivity/worksite-pa/toolkits/walkability/index.htm>; http://www.cdc.gov/physicalactivity/worksite-pa/toolkits/walkability/audit_tool.htm

VA SOL Standard: 10.4 The student will demonstrate appropriate behaviors in all physical activity settings and the social skills needed to be a contributing member of society.

ESSENTIAL UNDERSTANDINGS

- Following the rules and procedures in physical activity settings eliminates or reduces risks.

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>10.4 c) Identify and avoid potentially dangerous situations in physical activity settings.</p> <p>Suggested Learning Targets:</p> <p>I can explain the impact of using and not using appropriate safety equipment for (selected activity) and demonstrate that through (i.e.: exit ticket, explaining to a partner/group).</p> <p>I can explain the importance of having the proper skill training and/or accessing skilled trainers for (selected activity) and demonstrate that through (i.e.: exit ticket, explaining to a partner/group, summary paragraph, etc.).</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • List a potentially dangerous physical activity and questions you would need to answer before participating in the activity. Example: Cross-country skiing <ul style="list-style-type: none"> ○ How do I dress for the weather? ○ How do I size and handle the equipment? ○ What are the general safety rules and etiquette? • Pair/Share: Discuss safety and violence prevention in physical activity settings such as: jogging through a park, walking/hiking trails, cycling on roadways. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • For a selected activity, identify the safety measures/equipment needed and the advanced skills needed for safe participation. Identify resources to obtain the equipment and/or advanced skills. 	<ul style="list-style-type: none"> • Impact of the use/nonuse of safety equipment, impact of participating in physical activities without proper skill and/or without skilled providers (such as personal trainers, guides for outdoor pursuits). • Safety considerations in selected alternative pursuits such as: <ul style="list-style-type: none"> ○ Wear protective equipment. ○ Use reflective tape for night time visibility. ○ Have first-aid kit available. ○ Watch for extreme weather conditions. • Strategies to manage identified hazards related to community facilities and areas (e.g.; playground areas, bicycle routes, roads bordering schools, fitness and recreational facilities, safe workplace). 	<ul style="list-style-type: none"> • When you're deciding on a class or program, make sure the instructor is certified by an accredited professional organization such as the American Council on Exercise. • Discuss making wise choices to prevent possible injury. Examples such as: <ul style="list-style-type: none"> ○ Wear comfortable, well-fitting shoes. ○ Avoid outdoor activities in extreme temperatures. ○ Drink plenty of fluids to stay well hydrated. ○ Listen to your body when determining an appropriate exercise intensity (and keep in mind that monitoring intensity using heart rate isn't accurate if you are on heart-rate-altering medications such as most medications for hypertension). ○ Be aware of danger signs. Stop activity and call your doctor or 911 if you experience any of the following: pain or pressure in your chest, arms, neck or jaw; feeling lightheaded, nauseated or weak; becoming short of breath; developing pain in your legs, calves or back; or feeling like your heart is beating too fast or skipping beats.

Resources:

SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources
<http://www.doe.virginia.gov/instruction/physed/index.shtml>

VA SOL Standard: 10.4 The student will demonstrate appropriate behaviors in all physical activity settings and the social skills needed to be a contributing member of society.

ESSENTIAL UNDERSTANDINGS

- Cultural diversity promotes understanding of others
- Culture is one of the key factors to enhance our understanding of motivation in physical activity physical activity settings.

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>10.4 d) Explain the importance of understanding cultural diversity for personal health and fitness.</p> <p>Suggested Learning Targets:</p> <p>I can describe the variety of cultures I belong to and the importance of understanding cultural diversity for my health and wellbeing through a written short essay.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Written: Define culture and identify the variety of cultures that students may belong to. • Pair/Share: Name and discuss areas of concern related to a failure to understand cultural diversity. Examples include: relationships, teamwork and productivity. Often when people lack knowledge of things that they are not accustomed to they are quick to judge or stereotype and make ignorant decisions. • Reflect how culture affects attitudes and behaviors related to how people spend their leisure time. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Written: Identify a cultural group (what the group has in common) and how diversity has a positive effect on the group (such as exposure to different perspectives, different experiences and different ways of thinking). 	<ul style="list-style-type: none"> • Culture: The beliefs, customs, arts, etc., of a particular society, group, place, or time. • Cultural diversity: Ethnic, gender, racial and socioeconomic variety in a situation, institution, or group; the coexistence of different ethnic, gender, racial and socioeconomic groups within one social unit (dictionary.com). <ul style="list-style-type: none"> ○ All of the significant differences between people, including perceptions of differences that need to be considered in particular situations and circumstances. Often the most significant differences are the least obvious, such as our thinking styles or beliefs and values. • Students belong to a variety of cultures such as family, gender, teams, faith community, school, grade level, school classes, ethnicity and interest groups/clubs. 	<ul style="list-style-type: none"> • Discussions on diversity in groups. Example: A diverse group is one that values the difference in people. It is one that recognizes that people with different backgrounds, skills, attitudes and experiences bring fresh ideas and perceptions. Diverse groups encourage and harness these differences and draw upon the widest possible range of views and experiences.

Resources:

SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources
<http://www.doe.virginia.gov/instruction/physed/index.shtml>

VA SOL Standard: 10.4 The student will demonstrate appropriate behaviors in all physical activity settings and the social skills needed to be a contributing member of society.

ESSENTIAL UNDERSTANDINGS

- Access to social interactions and social support changes over time.

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>10.4 e) Evaluate opportunities for social interaction and social support in a self-selected physical activity or dance.</p> <p>Suggested Learning Targets:</p> <p>I can evaluate the potential for developing positive social relationships in the activities I am interested in pursuing now and into the future and demonstrate this through a summary with specific purpose.</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>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Identify activities that students are interested in pursuing now and into the future and how those activities may help students develop positive social relationships, now and into the future. • Questioning to check for understanding. Sample– 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. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Research resources available in your community for physical activity. Evaluate if the activities provide social interaction and social support. 	<ul style="list-style-type: none"> • Community resources for accessing physical activity or dance opportunities (parks and recreation facilities, faith community, recreation leagues, associations and organizations). <ul style="list-style-type: none"> ○ Physical activities such as: group exercise classes that offer an opportunity to socialize and develop friendships. 	<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. • Discussions on the 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>Resources: SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources http://www.doe.virginia.gov/instruction/physed/index.shtml</p>			

VA SOL Standard: 10.4 The student will demonstrate appropriate behaviors in all physical activity settings and the social skills needed to be a contributing member of society.

ESSENTIAL UNDERSTANDINGS

- Effectively dealing with stress means to activate the body's natural relaxation response by practicing relaxation techniques.

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>10.4 f) Apply stress-management strategies (e.g.; mental imagery, relaxation techniques, deep breathing, aerobic exercise, meditation) to reduce stress.</p> <p>Suggested Learning Targets:</p> <p>I can identify and demonstrate stress-management strategies that work for me and identify when I can apply the strategies and demonstrate this through a summary paragraph.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> Written: Identify situations that cause stress; identify stress-management strategies; explore one or more strategies that interest the student. Demonstrate one or more stress-management strategies/activities. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> Written: Describe stress-management strategies and situations that the strategies can be used to address different stress levels. Performance: Rubric or checklist for one or more mind-body activities I am interested in pursuing now and into the future. 	<ul style="list-style-type: none"> Rrelaxation techniques <ul style="list-style-type: none"> Breathing meditation: Deep breathing. Progressive muscle relaxation: Systematically tense and relax different muscle groups in the body. Body scan meditation: Focus on the sensations in each part of your body. Mindfulness: Staying calm and focused in the present moment. Visualization: Imagining a scene in which you feel at peace. Rhythmic exercise (such as running, walking, rowing, or cycling): Engaging in the present moment, focusing your mind on how your body feels right now. Social support and self-care (CDC) <ul style="list-style-type: none"> Eat a healthy, well-balanced diet Exercise regularly Get plenty of sleep Give yourself a break if you feel stressed out (listen to music, take a walk) Maintain a normal routine Stay active. You can take your mind off your problems by helping a neighbor, volunteering in the community, even taking the dog on a long walk. Symptoms of Stress: <ul style="list-style-type: none"> Lack of interest in activities or school Irritability and impatience Frequent stomach problems or headaches Anxiety Activity burnout Trouble sleeping Weaken your immune system, making it harder to fight off disease 	<ul style="list-style-type: none"> Teach basic movements used in other stress reducing activities such as yoga, Pilates and Tai Chi.

Resources:

VDOE Physical Education Instructional Resources <http://www.doe.virginia.gov/instruction/physed/index.shtml>;
http://www.cdc.gov/physicalactivity/basics/older_adults/index.htm; <http://classroom.kidshealth.org/classroom/9to12/problems/emotions/stress.pdf>

VA SOL Standard: 10.4 The student will demonstrate appropriate behaviors in all physical activity settings and the social skills needed to be a contributing member of society.

ESSENTIAL UNDERSTANDINGS

- Although yoga, Pilates and Tai Chi are different types of exercises, they all have something in common: they can help alleviate pain and improve quality of life.

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>10.4 g) Explain possible benefits of mind-body exercise/activities (e.g.; yoga, Pilates, Tai Chi).</p> <p>Suggested Learning Targets:</p> <p>I can explain the benefits of (selected mind-body activity) through (i.e.: exit ticket, explaining to a partner/group, summary paragraph, etc.).</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> Oral: Partner discussions on the benefits of different mind-body exercise/activities. Examples – <ul style="list-style-type: none"> Stretching is rejuvenating and helps a lot with joint pain. Improves sleep. Weight management. Improvement in strength. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> Written: Explain the benefits of yoga, Pilates and Tai Chi. Examples – <ul style="list-style-type: none"> Yoga, Tai Chi and Pilates are lower impact than traditional exercises. Yoga, Tai Chi and Pilates are done with relative ease. Beginners' exercises can be found online and videos and DVDs can lead you through the postures and breathing if you don't feel ready for a public class. One can also go online and create their own routine. Performing yoga, Tai Chi and Pilates causes the release of endorphins, which can improve mood and reduce pain. Tai Chi may contribute to the psychological well-being among healthy adults and patients with chronic conditions. Pilates focuses on the core postural muscles, which help keep the body balanced and are essential to providing support for the spine. 	<ul style="list-style-type: none"> Yoga: A system of exercises; series of moving and stationary poses and postures, combined with deep breathing, which help improve strength, flexibility and balance. http://kidshealth.org/en/teens/yoga-home.html?WT.ac=ctg#catdieting Pilates: Series of fluid movements performed in a precise manner, accompanied by specialized breathing techniques and intense mental concentration. Tai Chi: A Chinese form of exercise that uses very slow and controlled movements; it involves the practice of various postures; movements are continuous and serve to relax and align the body. http://kidshealth.org/en/teens/tai-Chi.html?WT.ac=ctg#catdieting 	<ul style="list-style-type: none"> Pilates, yoga, Tai Chi, or other mind-body activity; teacher training may be needed; use of commercially prepared audio/visual should be reviewed for appropriateness (safety and age-appropriateness). http://www.sparkpe.org/wp-content/uploads/yoga-basic-training.pdf http://www.sparkpe.org/wp-content/uploads/yoga-content-card_hs.pdf
<p>Resources: SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources http://www.doe.virginia.gov/instruction/physed/index.shtml; http://darebee.com/; http://kidshealth.org/en/teens/yoga.html?WT.ac=ctg#catdieting</p>			

VA SOL Standard: 10.4 The student will demonstrate appropriate behaviors in all physical activity settings and the social skills needed to be a contributing member of society.

ESSENTIAL UNDERSTANDINGS

- Conflict may occur in a variety of settings and requires different strategies to address.

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>10.4 h) Explain the importance of conflict resolution for current and future health and fitness.</p> <p>Suggested Learning Targets:</p> <p>I can explain the impact of conflict on current and future health and fitness through (i.e.: exit ticket, explaining to a partner/group, summary paragraph, etc.).</p> <p>I can identify conflict resolution strategies to address a variety of situations and demonstrate this to the teacher.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Written: Identify situations where conflict may arise (peer interactions, family interactions, others). • Pair/Share: Describe conflict resolution strategies. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Written: Explain the impact of conflict on health and fitness and strategies to address conflict in a variety of situations (current and future). 	<ul style="list-style-type: none"> • Conflict Resolution: <ul style="list-style-type: none"> ○ Talk about problems without assigning blame ○ Use active listening ○ Identify and clarify issues and needs ○ Brainstorm solutions ○ Choose and apply solution ○ Evaluate solution • The goals of negotiation are: <ul style="list-style-type: none"> ○ To produce a solution that all parties can agree to. ○ To work as quickly as possible to find this solution. ○ To improve, not hurt, the relationship between the groups in conflict. • Why it is important to resolve conflict: <ul style="list-style-type: none"> ○ To understand more about those whose ideas, beliefs and backgrounds may be different from your own. In order to resolve a conflict, you'll need to look at the conflict from your opponent's point of view and learn more about this person or group's perspective and motivations. ○ To ensure that your relationships with opponents continue and grow. If you make peace with your opponents, you increase your own allies. Successful negotiations pave the way for smooth relationships in the future. ○ To find peaceful solutions to difficult situations. Full-blown battles use up resources -- time, energy, good reputation, motivation. By negotiating, you avoid wasting these resources and you may actually make new allies and find new resources! 	<ul style="list-style-type: none"> • Activities that involve decisions that must be made by more than one person. Teacher asks students to think about the following questions before negotiating the solution. <ul style="list-style-type: none"> ○ What are my interests? ○ What do I really care about in this conflict? ○ What do I want? ○ What do I need? ○ What are my concerns, hopes, fears?

Resources:

SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources

<http://www.doe.virginia.gov/instruction/physed/index.shtml>; <http://www.cdc.gov/Features/HandlingStress/index.html>

<http://ctb.ku.edu/en/table-of-contents/implement/provide-information-enhance-skills/conflict-resolution/tools>

VA SOL: 10.5 The student will explain the importance of energy balance and evaluate current caloric intake and caloric expenditure to maintain optimal health and prevent chronic disease for the present and into adulthood.

ESSENTIAL UNDERSTANDINGS

- Optimum health requires knowledge of and adherence to recommendations and guidelines for physical activity, nutrition, body composition and sleep.

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>10.5 a) Analyze the relationships among physical activity, nutrition, body composition and sleep that are optimal for personal health and/or for participation in lifetime activities.</p> <p>Suggested Learning Targets:</p> <p>I can explain the relationship between and among physical activity, nutrition, body composition and sleep that are optimal for personal health and/or for participation in lifetime activities and demonstrate this through a rubric.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Written: Identify the requirements/guidelines for physical activity, nutrition, body composition and sleep that are optimal for personal health and/or for participation in lifetime activities. • Log daily amount of moderate to vigorous physical activity, caloric intake and sleep for a week. • Pair/Share: Personal strategies to meet guidelines for physical activity and caloric intake. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Written: Explain the relationship between and among physical activity, nutrition, body composition and sleep that are optimal for personal health and/or for participation in lifetime activities. 	<ul style="list-style-type: none"> • Calories needed to maintain energy balance for females and males: Females (14-18) <ul style="list-style-type: none"> ○ Sedentary – 1,800 ○ Moderately Active – 2,000 ○ Active – 2,400 Males (14-18) <ul style="list-style-type: none"> ○ Sedentary – 2,000 to 2,200 ○ Moderately Active – 2,400 to 2,800 ○ Active – 2,800 to 3,200 • One pound of body weight is equal to 3,500 calories. • Body fat ranges: Females <ul style="list-style-type: none"> ○ Lean – 20% to 25% ○ Moderate – 26% to 29% ○ Obese – 30%+ Males <ul style="list-style-type: none"> ○ Lean – 15% to 19% ○ Moderate – 19% to 24% ○ Obese – 25%+ • Sleep is a powerful regulator of appetite, energy use and weight control. Sleep deprivation can inhibit one’s ability to lose weight even while exercising and eating well. *See 10.5.d for additional information on sleep. • Physical activity levels: <ul style="list-style-type: none"> ○ High burns more than 7 calories per minute. ○ Moderate burns between 3.5 and 7 calories per minute. ○ Low (Light) burns less than 3.5 calories per minute. 	<ul style="list-style-type: none"> • Make connections to activity level and calorie intake. • Make connections to body composition and how it is affected by activity, nutrition and sleep.

Resources:

<http://www.choosemyplate.gov/food-groups/>; VDOE Physical Education Instructional Resources <http://www.doe.virginia.gov/instruction/physed/index.shtml>
 CDC (for guidelines) <http://www.cdc.gov/healthyyouth/npao/index.htm>

VA SOL Standard: 10.5 The student will explain the importance of energy balance and evaluate current caloric intake and caloric expenditure to maintain optimal health and prevent chronic disease for the present and into adulthood.

ESSENTIAL UNDERSTANDINGS

- Intensity refers to how hard your body is working during physical activity.

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>10.5 b) Evaluate current activity and intensity levels.</p> <p>Suggested Learning Targets:</p> <p>I can assess and evaluate my current activity levels and intensity of the activities through (i.e., exit ticket, explaining to a partner/group, summary paragraph, etc.).</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Written: One week log of daily activities that includes intensity levels. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Evaluate a one week log of daily activities that includes at least two measurements of intensity levels. 	<p>Review previous years' content as appropriate:</p> <p>Physical cues of intensity levels:</p> <table border="1" data-bbox="850 479 1396 998"> <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 minutes. 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> <p><small>Duncan GE, Sydemann 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</small></p> <ul style="list-style-type: none"> • The RPE scale used to measure the intensity of your exercise. 	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 minutes. 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.	<ul style="list-style-type: none"> • Participate in physical activities that cause the body to change and record or talk about the changes. Examples: <ul style="list-style-type: none"> ○ Describe how the activity makes you feel. ○ Identify differences in the amount of intensity in activities such as: which used a medium (moderate) amount; which used the least amount? ○ Evaluate where activities falls on the RPE scale. • Physical activities that cause students to move through the different intensity levels and take target heart rates throughout. • Use the RPE scale and determine workout intensity. • The talk test is a simple way to measure intensity: <ul style="list-style-type: none"> ○ If you can talk and sing without puffing at all, you're exercising at a low level. ○ If you can comfortably talk, but not sing, you're doing moderate intensity activity. ○ If you can't say more than a few words without gasping for breath, you're exercising at a vigorous intensity.
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 minutes. 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.													

Resources:
 SHAPE America National Standards and Grade-Level Outcomes
 VDOE Physical Education Instructional Resources <http://www.doe.virginia.gov/instruction/physed/index.shtml>;
 CDC (for guidelines) <http://www.cdc.gov/healthyyouth/npao/index.htm>

VA SOL Standard: 10.5 The student will explain the importance of energy balance and evaluate current caloric intake and caloric expenditure to maintain optimal health and prevent chronic disease for the present and into adulthood.

ESSENTIAL UNDERSTANDINGS

- Caloric expenditure and intake needs change over time.

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>10.5 c) Evaluate current and future caloric expenditure and intake needs.</p> <p>Suggested Learning Targets: (Student Friendly Language)</p> <p>I can explain how caloric expenditure and intake needs change over time through (i.e., exit ticket, explaining to a partner/group, summary paragraph, etc.).</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Explain the relationship between current and future caloric expenditure and intake needs. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • *(Can combine the “Assessment of Learning” 10.5.b with this assessment to be completed within a one week period.) Log a one week of daily caloric expenditure and intake and evaluate current and future needs based on present and future activity levels. 	<ul style="list-style-type: none"> • Review vocabulary and requirements/guidelines from previous grade levels. • Refer to CDC for adolescent and adult guidelines for caloric expenditure and intake. • Calorie Calculators such as: http://www.freedieting.com/tools/calorie_calculator.htm http://www.freedieting.com/tools/calories_burned.htm http://www.freedieting.com/tools/ideal_body_weight.htm • Cause, Effect & Result of Your Daily Calorie Intake: <table border="1" data-bbox="848 797 1455 1003"> <thead> <tr> <th>The Cause</th> <th>The Effect</th> <th>The Result</th> </tr> </thead> <tbody> <tr> <td>Calories In Beats Calories Out</td> <td>Caloric Surplus</td> <td>Muscle gain, fat gain, or both.</td> </tr> <tr> <td>Calories Out Beats Calories In</td> <td>Caloric Deficit</td> <td>Fat loss, muscle loss, or both</td> </tr> <tr> <td>Calories In = Calories Out</td> <td>Maintenance</td> <td>Everything remains the same.</td> </tr> </tbody> </table>	The Cause	The Effect	The Result	Calories In Beats Calories Out	Caloric Surplus	Muscle gain, fat gain, or both.	Calories Out Beats Calories In	Caloric Deficit	Fat loss, muscle loss, or both	Calories In = Calories Out	Maintenance	Everything remains the same.	<ul style="list-style-type: none"> • Make connections to activity level and calories burned during a physical activities. • http://www.pecentral.org/lessonideas/VewLesson.asp?ID=8818#.V4zK_rf6vcs
The Cause	The Effect	The Result													
Calories In Beats Calories Out	Caloric Surplus	Muscle gain, fat gain, or both.													
Calories Out Beats Calories In	Caloric Deficit	Fat loss, muscle loss, or both													
Calories In = Calories Out	Maintenance	Everything remains the same.													

Resources:

<http://www.choosemyplate.gov/food-groups/>; VDOE Physical Education Instructional Resources <http://www.doe.virginia.gov/instruction/physed/index.shtml>; CDC (for guidelines) <http://www.cdc.gov/healthyyouth/npao/index.htm>

VA SOL Standard: 10.5 The student will explain the importance of energy balance and evaluate current caloric intake and caloric expenditure to maintain optimal health and prevent chronic disease for the present and into adulthood.

ESSENTIAL UNDERSTANDINGS

- Optimum health requires knowledge of and adherence to recommendations and guidelines for physical activity, nutrition, body composition and sleep.
- Sleep is a vital indicator of overall health and well-being.

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>10.5 d) Evaluate current and future sleep needs.</p> <p>Suggested Learning Targets:</p> <p>I can access recommendations for and explain my current and future sleep needs for optimum health through a graphic organizer.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Written: Access accurate and reliable recommendations for sleep; identify requirements for adolescents and adults. • Pair/Share: Lifestyle factors that are affecting the quality and quantity of your sleep such as school schedules and stress. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Written: Explain current and future sleep needs for optimum health. 	<ul style="list-style-type: none"> • National Heart, Lung and Blood Institute Recommended Amount of Sleep <ul style="list-style-type: none"> ○ Teens (14-17) 8-10 hours a day ○ Young Adults (18-25) 7-8 hours a day ○ Adults (26-64) 7-9 hours a day ○ Older adults (65+) 7-8 hours a day • Stimulants like coffee and energy drinks, alarm clocks and external lights (including those from electronic devices) interfere with our “circadian rhythm” or natural sleep/wake cycle. • Sleep needs: <ul style="list-style-type: none"> ○ A good night's sleep improves learning. ○ Sleep is involved in healing and repair of your heart and blood vessels. The right amount of sleep reduces heart rate and blood pressure. ○ Getting enough sleep helps you function productivity/safety throughout the day. People who are sleep deficient are less productive at work/school. They take longer to finish tasks, have a slower reaction time and make more mistakes. • Consult a primary care physician or a sleep professional to determine the underlying cause, if experiencing symptoms such as: sleepiness during the day or when you expect to be awake and alert, snoring, leg cramps or tingling, gasping or difficulty breathing during sleep, prolonged insomnia or another symptom that is preventing you from sleeping well. 	<ul style="list-style-type: none"> • Discuss questions that help students assess how they feel on different amounts of sleep such as: <ul style="list-style-type: none"> ○ Are you productive, healthy and happy on seven hours of sleep? Or does it take you nine hours of quality sleep to get you into high gear? ○ Do you have health issues such as weight concerns? Are you at risk for any disease? ○ Are you experiencing sleep problems? ○ Do you depend on caffeine to get you through the day? ○ Do you feel sleepy when driving? • Introduce sleep tips such as: <ul style="list-style-type: none"> ○ Stick to a sleep schedule, even on weekends. ○ Practice a relaxing bedtime ritual. ○ Exercise daily. ○ Evaluate your bedroom to ensure ideal temperature, sound and light. ○ Sleep on a comfortable mattress and pillows. ○ Beware of hidden sleep stealers, like caffeine. ○ Turn off electronics before bed. • Evaluate personal sleep patterns http://kidshealth.org/classroom/9to12/body/functions/sleep_handout2.pdf
<p>Resources:</p>			

SHAPE America National Standards and Grade-Level Outcomes; VDOE Physical Education Instructional Resources

<http://www.doe.virginia.gov/instruction/physed/index.shtml>; http://www.heart.org/HEARTORG/Educator/Educator_UCM_001113_SubHomePage.jsp;
www.cdc.gov/sleep/about_sleep/how_much_sleep.html ; <http://www.nhlbi.nih.gov/health/health-topics/topics/sdd/howmuch>
<https://sleepfoundation.org/how-sleep-works/how-much-sleep-do-we-really-need>; <https://sleepfoundation.org/sleep-diary/SleepDiaryv6.pdf>
<http://classroom.kidshealth.org/classroom/9to12/body/functions/sleep.pdf>

VA SOL Standard: 10.5 The student will explain the importance of energy balance and evaluate current caloric intake and caloric expenditure to maintain optimal health and prevent chronic disease for the present and into adulthood.

ESSENTIAL UNDERSTANDINGS

- “Adequate food and fluid should be consumed before, during and after exercise to help maintain blood glucose concentration during exercise, maximize exercise performance and improve recovery time”. *(American College of Sports Medicine)

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>10.5 e) Evaluate the caloric intake needs for before, during and after a variety of lifetime activities.</p> <p>Suggested Learning Targets:</p> <p>I can explain the caloric needs for before, during and after (selected activities) and demonstrate this through a collaborative poster.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Identify a variety of lifetime activities the student is/may be interested in, describe the caloric expenditure and nutrition needs for the activities. • List foods and beverages to consume before, during and after a specific lifetime activity. Examples: <ul style="list-style-type: none"> ○ Pre activity – Egg omelet with spinach, whole grain toast and skim milk. Greek yogurt with banana, walnuts, apples and honey. ○ After activity – Take 10-20 grams of protein within 2 hours after a lifetime activity that emphasis muscular strength and endurance such as: whole grain, vegetables, fruits and beans. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Pick two lifetime activities that you plan to participate in during your lifetime and evaluate the caloric intake needs for before, during and after participation. 	<ul style="list-style-type: none"> • Pre lifetime physical activity: Good supply of protein for tissue repair 1-2 hours before activity. A lifetime activity that has a lot of cardio requires more carbohydrates than protein. Carbohydrates are metabolized into glucose (energy) very quickly so they should be consumed 30-60 minutes before an activity. • During physical lifetime activity: Add protein and fiber to deliver a steadier supply of energy throughout the activity. • After a lifetime physical activity: Go for carbohydrates to replace the energy in depleted muscles. Protein, though, is almost equally important in sealing in your physical activity benefits and promoting recovery. • Breakdown for carbohydrate, protein and fat needs: <table border="1" data-bbox="1010 1089 1650 1195"> <thead> <tr> <th>Age (years)</th> <th>Carbohydrate</th> <th>Protein</th> <th>Fat</th> </tr> </thead> <tbody> <tr> <td>6-18</td> <td>45-65%</td> <td>10-30%</td> <td>30-40%</td> </tr> <tr> <td>19+ (adults)</td> <td>45-65%</td> <td>10-35%</td> <td>20-35%</td> </tr> </tbody> </table>	Age (years)	Carbohydrate	Protein	Fat	6-18	45-65%	10-30%	30-40%	19+ (adults)	45-65%	10-35%	20-35%	<ul style="list-style-type: none"> • Develop alone or with a group, lists of foods and beverages to consume for different phases of a workout. Example: <ul style="list-style-type: none"> ○ Pre workout- Egg omelet with spinach, whole grain toast and skim milk. Greek yogurt with banana, walnuts, apples and honey. ○ After- Take 10-20 grams of protein within 2 hours after strength training. Whole grain, vegetables, fruits and beans.
Age (years)	Carbohydrate	Protein	Fat												
6-18	45-65%	10-30%	30-40%												
19+ (adults)	45-65%	10-35%	20-35%												

Resources:

SHAPE America National Standards and Grade-Level Outcomes

<http://www.choosemyplate.gov/> See education resources and curriculum ideas;

VDOE Physical Education Instructional Resources <http://www.doe.virginia.gov/instruction/physed/index.shtml>;

http://www.heart.org/HEARTORG/Educator/Educator_UCM_001113_SubHomePage.jsp; <http://darebee.com/mealplans.html>

VA SOL Standard: 10.5 The student will explain the importance of energy balance and evaluate current caloric intake and caloric expenditure to maintain optimal health and prevent chronic disease for the present and into adulthood.

ESSENTIAL UNDERSTANDINGS

- Choosing nutrient-dense foods and abiding by calorie recommendations will help one reach their nutrition needs while maintaining a healthy body weight.
- Everything we do, from sleeping to running, requires energy.

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>10.5 f) Explain energy balance (caloric expenditure vs. caloric intake) in relation to changing needs from adolescence through adulthood.</p> <p>Suggested Learning Targets:</p> <p>I can compare and contrast my current and future energy balance for a variety of ages, weight and activity levels through a graphic organizer.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Compare and contrast a variety of ages, weight and activity levels using an application. • Pair/Share: Explain what energy balance is and why it is important for good health. <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Compare and contrast current and future energy balance for now and as one ages. 	<ul style="list-style-type: none"> • Energy balance – The relationship between “energy in” (food calories taken into the body through food and drink) and “energy out” (calories being used in the body for our daily energy requirements). • Effects of a negative energy balance (more out than in) include: Decline in metabolism, decreases in bone mass, reductions in thyroid hormones, reductions in testosterone levels, inability to concentrate and a reduction in physical performance. • Even when we're sleeping, our body needs energy for all its "hidden" functions, such as breathing, circulating blood and growing and repairing cells. • Calorie Requirements: <table border="1" data-bbox="848 1023 1600 1347"> <thead> <tr> <th rowspan="2">Gender</th> <th rowspan="2">Age</th> <th colspan="3">Moderately Active</th> </tr> <tr> <th>Sedentary</th> <th>Moderately Active</th> <th>Active</th> </tr> </thead> <tbody> <tr> <td>Female</td> <td>14-18</td> <td>1,800</td> <td>2,000</td> <td>2,400</td> </tr> <tr> <td>Female</td> <td>19-30</td> <td>2,000</td> <td>2,000 – 2,200</td> <td>2,400</td> </tr> <tr> <td>Female</td> <td>31-50</td> <td>1,800</td> <td>2,000</td> <td>2,200</td> </tr> <tr> <td>Female</td> <td>51+</td> <td>1,600</td> <td>1,800</td> <td>2,000 – 2,200</td> </tr> <tr> <td>Male</td> <td>14-18</td> <td>2,200</td> <td>2,400 – 2,800</td> <td>2,800 – 3,200</td> </tr> <tr> <td>Male</td> <td>19-30</td> <td>2,400</td> <td>2,600 – 2,800</td> <td>3,000</td> </tr> <tr> <td>Male</td> <td>31-50</td> <td>2,200</td> <td>2,400 – 2,600</td> <td>2,800 – 3,000</td> </tr> <tr> <td>Male</td> <td>51+</td> <td>2,000</td> <td>2,200 – 2,400</td> <td>2,400 – 2,800</td> </tr> </tbody> </table>	Gender	Age	Moderately Active			Sedentary	Moderately Active	Active	Female	14-18	1,800	2,000	2,400	Female	19-30	2,000	2,000 – 2,200	2,400	Female	31-50	1,800	2,000	2,200	Female	51+	1,600	1,800	2,000 – 2,200	Male	14-18	2,200	2,400 – 2,800	2,800 – 3,200	Male	19-30	2,400	2,600 – 2,800	3,000	Male	31-50	2,200	2,400 – 2,600	2,800 – 3,000	Male	51+	2,000	2,200 – 2,400	2,400 – 2,800	<ul style="list-style-type: none"> • Compare and contrast a variety of ages, weight and activity levels using an application such as one available from the Mayo Clinic - calculator http://www.mayoclinic.org/calorie-calculator/ITT-20084939
Gender	Age	Moderately Active																																																	
		Sedentary	Moderately Active	Active																																															
Female	14-18	1,800	2,000	2,400																																															
Female	19-30	2,000	2,000 – 2,200	2,400																																															
Female	31-50	1,800	2,000	2,200																																															
Female	51+	1,600	1,800	2,000 – 2,200																																															
Male	14-18	2,200	2,400 – 2,800	2,800 – 3,200																																															
Male	19-30	2,400	2,600 – 2,800	3,000																																															
Male	31-50	2,200	2,400 – 2,600	2,800 – 3,000																																															
Male	51+	2,000	2,200 – 2,400	2,400 – 2,800																																															

Resources:

SHAPE America National Standards and Grade-Level Outcomes

<http://www.choosemyplate.gov/> See education resources and curriculum ideas; VDOE Physical Education Instructional Resources

<http://www.doe.virginia.gov/instruction/physed/index.shtml>; http://www.heart.org/HEARTORG/Educator/Educator_UCM_001113_SubHomePage.jsp;

VA SOL Standard: 10.5 The student will explain the importance of energy balance and evaluate current caloric intake and caloric expenditure to maintain optimal health and prevent chronic disease for the present and into adulthood.

ESSENTIAL UNDERSTANDING

- Over-exercising can lead to injury and illness.
- The best way to prevent over-exercising is to follow a program that varies your training load and includes mandatory rest phases.

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>10.5 g) Explain the consequences of over-exercising.</p> <p>Suggested Learning Targets:</p> <p>I can explain what over-exercising is and some possible concerns through a summary paragraph.</p>	<p>Assessment for Learning (Formative)</p> <ul style="list-style-type: none"> • Written: Investigate physical activity guidelines and information about “over-exercising”; what are signs or symptoms of over-exercising <p>Assessment of Learning (Summative)</p> <ul style="list-style-type: none"> • Explain what over-exercising is and some possible concerns. 	<ul style="list-style-type: none"> • Adolescents and young adults, both male and female, benefit from physical activity. • Greater amounts of physical activity are even more beneficial, up to a point. Excessive amounts of physical activity can lead to injuries, menstrual abnormalities and bone weakening. • Risk of injury increases with greater amounts of activity, care should be taken to avoid excessive amounts. • Signs of over-exercise may include delayed recovery time, depression, insomnia, disinterest in exercise, mood changes, fatigue. 	<ul style="list-style-type: none"> • Discussions on over-exercising concerns.

Resources:

SHAPE America National Standards and Grade-Level Outcomes

<http://www.choosemyplate.gov/> See education resources and curriculum ideas; VDOE Physical Education Instructional Resources

<http://www.doe.virginia.gov/instruction/physed/index.shtml>; Center for Disease Control and Prevention <http://www.cdc.gov/nccdphp/sgr/adoles.htm>

<http://www.nhlbi.nih.gov/health/educational/wecan/healthy-weight-basics/balance.htm>

<https://www.cooperinstitute.org/vault/2440/web/files/664.pdf>