

LESSON 2: CARDIO

Learning the Zones and Tones
Understanding the Data

Time	Stage 3 – Learning Plan (Activities)
5:00	<p>Learning Plan:</p> <ul style="list-style-type: none"> • Introduce the zones: low, moderate and vigorous. • Review the benefits of monitoring heart rate. • Explain the concepts of zones: that a zone is a range of heart beats with the top of the zone called the ceiling and the bottom of the zone called the floor and that the different heart zones have different health and fitness benefits. • Use the “Heart Fit in the Zone” chart. <p>Objectives:</p> <ul style="list-style-type: none"> • Introduce the concept of the heart rate zones. • Learn what color/tones/chimes coordinate with which heart zone. • Connect the zone concept to activities and lessons taught. <p>Inclusion Strategies: Use audio and visual cues for students.</p> <p>Introduction - Using power chart or banner “Heart Fit In The Zone” Explain and discuss the three heart rate zones: BLUE, YELLOW, and RED</p> <ol style="list-style-type: none"> 1. BLUE: Low/Easy/Heart Healthy: 50-60% of max heart rate: Improvement in overall health, such as lowered blood pressure and lowered cholesterol, improved muscle tone, recovery and great for long term heart health. 2. YELLOW: Moderate/Steady/Aerobic: 60-80% of max heart rate: Increased fat burning and development of more muscle mass, improved aerobic fitness, stamina and endurance. 3. RED: Vigorous/Anaerobic: 80 to 90% of max heart rate: Strengthened cardiovascular endurance, improved performance, speed and power to help be the fastest and fittest. <p>Explain how to understand the various chimes of the Heart Rate Monitor (if needed).</p> <ol style="list-style-type: none"> 1. The first chime will always be an upward ascending sound indicating that the monitor is on and gathering heart rate data. The same chime but in a descending crescendo indicates that the monitor is turning off. This sound will be heard every time the HRM is taken off or if it loses skin contact while being worn. 2. A brief chime followed by a single chime indicates that you are in or have entered the BLUE zone. 3. A brief chime followed by two chimes indicates that you are in or have entered the YELLOW zone. 4. A brief chime followed by three chimes indicates that you are in or have entered the RED zone. 5. Repeated chiming in quick succession like a toy phone ringing indicates that you have reached your maximum heart rate.
2:00	<p>Teacher Instruction: Students today focus on each zone as it aligns with the different parts of a lesson: warm-up, fitness development, skill development, activity time and cool down</p>



5:00	<p>Example stretches:</p> <ul style="list-style-type: none"> • Stretch for the Sky Reach out as you lower arm toward your toes • Leg Reach One leg extended, grab toes • Leg Pull In One leg extended with the other leg crossed over with the foot on the floor, pull knee into chest • Leg Push Out From Leg Pull In position, put left elbow to right knee (crossed over) and push gently inward to feel stretch in gluteus • Butterfly stretch • Deep breath and slowly exhale Slowing down all thoughts and relaxing the mind <p>Ask students: which zone they are working in?</p> <p>Closure (Teach how to use weekly wrap up chart): Help students understand where to read their data from the email or at the end of class while uploading their workout. What are the three zones? How will you know the lesson/goal for each day? How will you know how much time was accumulated in each of the zones?</p> <p>Materials:</p> <ul style="list-style-type: none"> • Heart rate monitors • Straps if needed • Heart Fit in the Zone Banner • Computer • Spirit Reader • One object for every two students • Internet connection • Spirit Software • Poly spots or cones to mark goal line
	<p>Sources: Student Resources: “Understanding the Data” Weekly Wrap Up Chart</p>



CATEGORY: FITNESS ACTIVITIES

FLEXIBILITY, MOBILITY, BALANCE

Lesson: Yoga Sun Salutation

Time	Stage 3 – Learning Plan (Activities)
3:00	<p>Objectives:</p> <ul style="list-style-type: none"> Combine stretching exercises, controlled breathing and relaxation techniques to reduce stress, lower blood pressure and improve heart function. Perform exercises to improve balance, flexibility and range of motion. <p>Inclusion Strategies: Task cards for various movements</p> <p>Introduction (Warm Up) Explain to the students this will be a lower impact day (BLUE zone). Focus on body alignment and balance. Yoga brings together physical and mental disciplines to achieve peacefulness of body and mind, helping you relax and manage stress and anxiety. Sun Salutation lesson is a series of poses performed in a graceful flow and linked by breath—a method called “vinyasa.” It's a great way to greet the sun any time of the day while improving muscle tone, mood, flexibility, mobility and balance.</p> <p>Yoga has many styles, forms and intensities. It may be helpful to vary the way you teach this lesson. Try varying the speed in which students complete the sequence or have them be aware of each body part as they move through the sequence. Have them hold a sand bell for resistance as they move through. This approach helps students master at least one yoga sequence that can become a solid foundation to build upon.</p>
20:00	<p>Skill and Fitness Development - Teach students the different type of movements:</p> <p>Mountain Pose: Stand at front of your mat with your feet hip-width apart and your weight evenly distributed between them, your spine erect, your arms at your sides.</p> <p>Arms Reaching Upward: Inhale, extending your arms overhead, bringing your palms together, and expanding your chest.</p> <p>Standing Forward Bend: Exhale, bringing your chest toward your thighs and your hands toward the floor.</p> <p>Lunge Pose: Inhale, placing your hands on the mat on either side of your right foot as you lunge your left leg straight back behind you. Expand your chest as you lengthen your spine. Be sure your bent knee is aligned directly above your heel; if it juts out over your toes it will cause too much strain on your knee.</p> <p>Plank Pose: Exhale, stepping your right leg back so your feet are now side by side. Look straight at the floor, keeping your arms extended and your body straight. Hold this pose for 3 to 5 full breaths.</p> <p>Kneel and Lower Head: Exhale, slowly dropping your knees to the floor. Untuck toes, bring your hips back to your heels, and lower your head to the floor with your arms still extended in front of you.</p> <p>Get on all Fours: Inhale, slowly bringing yourself up on all fours.</p>





CATEGORY: FITNESS ACTIVITIES

Student-designed Fitness Plan

Topic(s): Student-designed Fitness PlanGrade Level: 9-12

Stage 1 – Desired Results

Content Standards and Outcomes:

FOCUS-

- S3.H12.L1- Designs a fitness program, including all components of health-related fitness for a college student and an employee in the learner's chosen field of work.
- S3.H13.L1- Designs and implements a nutrition plan to maintain an appropriate energy balance for a healthy, active lifestyle.
- S3.H10- Adjusts pacing to keep heart rate in the target zone using available technology to self-monitor aerobic intensity.
- S3.H11.L2- Develops and maintains a fitness portfolio.
- S3.H7.L2- Designs and implements a strength and conditioning program that develops balance in opposing muscle groups and support a healthy, active lifestyle.

SUPPORT-

- S3.H5.L2- Analyzes the impact of life choices, economics, motivation and accessibility on exercise adherence and participation in physical activity in college or career settings.
- S3.H7.L1- Demonstrates appropriate technique in resistance training machines and free weights.
- S4.H1.L1- Employs effective self-management skills to analyze barriers and modify physical activity patterns appropriately, as needed.
- S4.H5.L1- Applies best practices for participating safely in physical activity, exercise and dance.
- S5.H3.L1- Selects and participates in physical activities or dance that meet the need for self-expression and enjoyment.
- S3.H14.L1- Identifies stress management strategies to reduce stress.

Enduring Understandings:

- How to design a personal fitness program including all components of health-related fitness
- How proper nutrition, calorie intake and calorie expenditure affect health
- How to use a heart rate monitor to adjust pacing to keep heart rate in the target heart rate zone

Essential Questions / Provocative Questions:

- What life factors (i.e. employment, college, parenting, etc.) affect personal fitness?
- Why are heart rate monitors critical pieces of technology for personal fitness?

Knowledge - Students will know:

- The 5 components of health-related fitness
- At least 5 different activities and/or exercises for each component of health-related fitness
- Daily nutritional requirements for their gender and age (my plate)
- How to calculate caloric intake and expenditure
- Best practices for safe participation in physical activity and exercise
- How to design a nutrition plan as part of a balanced, healthy lifestyle
- What activities and/or exercises would you include in your personal fitness plan and why

Skill - Students will be able to (do):

- Design and implement a personal fitness program, including all components of health-related fitness
- Design a personal fitness program for a college student and an employee in the student's chosen field of work
- Design and implement a nutrition plan to maintain an appropriate energy balance
- Utilize heart rate monitors to adjust pacing during exercise to keep heart rate in the target zone



Stage 2 – Assessment Evidence

Performance Tasks:

- 1- Design a personal fitness program and implement it for 7 days.
- 2- Design a personal fitness program for a high school.
- 3- Design a personal fitness program for an employee in your chosen field of work.
- 4- Design a personal nutrition program and implement it for 7 days.
- 5- Analyze your heart rate report from the implementation of your 7-day fitness program. Were you able to stay in your target heart rate zone? Why/why not? How did you adjust the intensity of your workout to stay in the appropriate zones?
- 6- Design and present a PowerPoint with a fun menu for a one-week period which includes meals and snacks along with information on calories, fats, carbohydrates, proteins and sugars. Explain why your menu plan is both healthy and tasty.
- 7- Analyze and evaluate a day in the life of a chosen career. Using the heart rate monitor, ask a professional in a career (banker, doctor, teacher, lawyer, etc.) to wear the heart rate monitor for one day. Analyze and evaluate what the heart rate monitor printout tells you about that person and the career that accompanies him/her. What trends (e.g., stress, physical, mental, emotional etc.) can you find to support the findings you made about the physical condition of others with the same career? Cite your resources.

Key Criteria: (rubric)

Performance Tasks			
Measures	Novice	Partially Proficient	Proficient
A student completes 7 of the 7 tasks. In addition, the student included in-depth inferences and applications that go beyond what was taught; additional resources where shared with peers; citations were included.	A student completes 4 or less of the 7 requirements.	A student completes at least 5 of the 7 requirements.	A student completes 7 of the 7 requirements.

Other Evidence:

- **Daily exit slips** - Teacher asks a question at the end of class to see how many students understand a concept or idea.
- **Direct formative assessment** - With the application of technology (heart rate monitors) students are given feedback that they can use to determine their next step.
- **Weekly Wrap Up sheets**
- **Fact-first questioning** - Teacher asks fact question first then moves to follow-up higher order questions to get at how or why.
- **Fishbowl think aloud** - 4-5 students become the fishbowl and talk about a concept in conversation. Rest of class listens to reconcile their own thinking with that of their peers in the bowl.
- **Student evaluation of learning gains** - Students complete teacher's questionnaire to find out how well a unit helped them learn.
- **What are you doing and Why?** - Teacher stops instruction or rotates through the class while students are working and just asks the students to answer this question.

Sources:

Student Resources: Take Your Health and Nutrition Inventory
 Setting Short and Long Term Goals
 Fitness Assessment Chart
 Measuring Training Load
 Assessing Cardiac Cost
 Maintain Consistent Energy
 Good Nutrition = Energy For Life
 What Energy Drives Your Life
 5 Health-Related Fitness Components
 Blank IHT Fitness Challenge form so students can design their own fitness challenge



UNIT: MUSCULAR STRENGTH & MUSCULAR ENDURANCE

Lesson: Peer Assessment of Body Alignment and Technique

Time	Stage 3 – Learning Plan (Activities)																																										
	<p>Content Standards and Outcomes: Assessing body alignment to enhance movement patterns of the body</p> <p>Inclusion Strategies: PowerPoint or task cards with various movements</p>																																										
4:00	<p>Warm-up - Instant Activity: Tag Game or Dynamic Stretching</p>																																										
12:00	<p>Fitness Development Activity - Step 4 Assessment and Analyzing: How does body alignment allow individuals to maintain a healthier lifestyle?</p> <p>Skill Development: Technique for push-ups, squats and curl-ups Go over the peer assessment card on the correct technique for push-ups, curl-ups and squats. Explain to the students about the pre, midterm, and post assessment log in the student journal. Help them understand the techniques and that later in the semester everyone will help with the review by filling out a peer assessment card. Have students practice.</p> <table border="1"> <thead> <tr> <th>Measure</th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>Push-up: 90° angle</td> <td></td> <td></td> </tr> <tr> <td>Push-up: Core straight back</td> <td></td> <td></td> </tr> <tr> <td>Push-up: Extend arms fully</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>Squats: Feet shoulder-width apart</td> <td></td> <td></td> </tr> <tr> <td>Squats: Bending legs to lower the body</td> <td></td> <td></td> </tr> <tr> <td>Squats: Knees behind toes</td> <td></td> <td></td> </tr> <tr> <td>Squats: Head up, shoulders back</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>Curl-up: Heels on mat</td> <td></td> <td></td> </tr> <tr> <td>Curl-up: Head return to mat</td> <td></td> <td></td> </tr> <tr> <td>Curl-up: Movement continuous</td> <td></td> <td></td> </tr> <tr> <td>Curl-up: Hands beyond strip 4/12</td> <td></td> <td></td> </tr> </tbody> </table>	Measure	Yes	No	Push-up: 90° angle			Push-up: Core straight back			Push-up: Extend arms fully						Squats: Feet shoulder-width apart			Squats: Bending legs to lower the body			Squats: Knees behind toes			Squats: Head up, shoulders back						Curl-up: Heels on mat			Curl-up: Head return to mat			Curl-up: Movement continuous			Curl-up: Hands beyond strip 4/12		
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20:00	<p>Activity Stations: Perform each station for 2-and-a-half minutes with 30 seconds for rotation Rotate through the stations 2 times Station 1 - Jump rope: 30 seconds on each movement</p> <ul style="list-style-type: none"> • Regular (both feet together) • Ski (side to side) • Right foot only • Left foot only • Red Hots (as fast as possible) • Backwards 																																										



CATEGORY: RHYTHM AND DANCE

Unit: Rhythm and Dance

Topic(s): Rhythm and Dance

Grade Level: 6-8

Stage 1 – Desired Results

Content Standards and Outcomes:

FOCUS-

- S1.M1.6- Demonstrates correct rhythm and pattern for one of the following dance forms: folk, social, creative, line, or world dance.
- S1.M1.7- Demonstrates correct rhythm and pattern for a different dance form from among folk, social, creative, line and world dance.
- S1.M1.8- Exhibits command of rhythm and timing by creating a movement sequence to music as an individual or group.
- S2.M12.6- Varies application of force during dance or gymnastic activities.
- S2.M12.7- Identifies and applies Newton's Laws of Motion to various dance or movement activities.
- S2.M12.8- Describes and applies mechanical advantages for a variety of movement patterns.
- S4.M6.7- Demonstrates knowledge of rules and etiquette by self-officiating modified physical activities and games or following parameters to create or modify a dance.

SUPPORT-

- S3.M5.6- Participates in a variety of lifetime recreational team sports, outdoor pursuits, or dance.
- S3.M8.8- Uses available technology to self-monitor quantity of exercise needed for a minimal health standard and/or optimal functioning based on current fitness levels.
- S3.M1.7- Exhibits responsible social behaviors by cooperating with classmates, demonstrating inclusive behaviors and supporting classmates.
- S3.M3.8- Provides encouragement and feedback to peers without prompting from the teacher.
- S5.M3.7- Generates positive strategies such as offering suggestions or assistance, leading or following others and providing possible solutions when faced with a group challenge.
- S5.M6.7- Demonstrates the importance of social interaction by helping and encouraging others, avoiding trash talk and providing support to classmates.

Enduring Understandings:

- Why dance provides a unique opportunity for social interaction
- The importance of rhythm, pattern and timing in dance
- How physical, cognitive and affective/social skills are utilized when learning and performing dances
- The varied forms and styles of dance

Essential Questions / Provocative Questions:

- What role does dance play in society?
- Why is heart rate important in dance?
- What connection is there between dance and fitness?

Knowledge - Students will know:

- Examples of various dance forms (folk, social, creative, line, or world dance)
- Etiquette and safety when participating in dance activities
- The dance steps (routine) for at least 1 dance
- The dance steps (routine) for dance created as part of a collaborative project
- The importance of providing support, suggestions and/or assistance to classmates

Skill - Students will be able to (do):

- Demonstrate correct rhythm and pattern for at least 1 of the following dance forms: folk, social, creative, line, or world dance
- Create a movement routine to music with a group
- Apply the Laws of Motion and mechanical advantages for a variety of dance and movement patterns
- Demonstrate knowledge of rules and etiquette by following parameters to create or modify a dance



Stage 2 – Assessment Evidence

Performance Tasks:

1. Perform with proficiency (demonstrate correct rhythm and pattern) for at least 1 folk, social or line dance (i.e. Cha-Cha Slide, Cupid Shuffle, Macarena, Electric Slide, etc...).
2. So You Think You Can Dance? – Tell students that their group has earned a spot on the show “Mr/Ms’ _____ Class Thinks They Can Dance.” In order to impress the judges (e.g. teachers), each group will develop and perform a creative movement routine that allows all members to exhibit command of rhythm and timing. The elements of the task should include:
 - a. Final Routine Script which includes planning for sequenced movements, structure of performance, roles and contributions from each group member
 - b. A routine that demonstrates fluid body movement, body awareness and spatial awareness; varies application of force and match between movements and music
 - c. 2-5 minutes in length
 - d. Approved music

Critical Key

Task 1- Dance Rubric:

Post rubric in class so that students are informed of the criteria.

	1	2	3	4
Formation	Student is not clear about the dance formation.	Student requires some assistance from teacher while getting into position.	Student gets into position for the dance with minimal assistance from teacher or peers.	Student clearly demonstrates the correct dance formation and is helpful to others.
Sequence of Steps	Student seems lost and/or demonstrates incorrect dance steps.	Student can follow portions of the dance with frequent cues provided by the teacher.	Student can follow most of the dance sequence with some help from peers.	Student clearly demonstrates the correct dance sequence and may take a leading role during the performance.
Beat	Student movements are completely off beat and/or student steps are not synchronized with the music.	Student movement to the beat is inconsistent and it fluctuates at times.	Student performs the dance to the correct beat most times and is able to find the beat if he/she loses a beat.	Student clearly maintains the beat during the dance and consistently maintains it throughout the performance.
Enthusiasm	Student shows little or no enthusiasm for dance.	Student needs frequent reminders during the dance to maintain their focus on the dance.	Student approaches dance with a positive attitude; may need to be brought back to task at times very focused and follows instructions well.	Student is totally motivated to participate in dance, is always focused, on task and encourages others to remain on task.



CATEGORY: GAMES AND SPORTS

Unit: Heart Rate and Game Play

Topic(s): Heart Rate and Game PlayGrade Level: 8th grade

Stage 1 – Desired Results

Content Standards and Outcomes:

FOCUS-

- S1.M11.8- Drop steps in the direction of the pass during player to player defense.
- S2.M2.8- Executes at least 3 of the following offensive tactics to create open space: moves to create open space on and off the ball; uses a variety of passes, fakes and pathways; give and go.
- S1.M5.8- Throws a lead pass to a moving partner off a dribble or pass.
- S3.M8.8- Uses available technology to self-monitor quantity of exercise needed for a minimal health standard and/or optimal functioning based on current fitness level.

SUPPORT:

- S1.M6.8- Executes at least 2 of the following to create open space during modified game play: pivots, fakes, jab steps and screens.
- S2.M1.8- Opens and closes space during small-sided game play by combining locomotor movements with movement concepts.
- S2.M9.8- Varies the speed, force and trajectory of the shot based on location of the object in relation to the target.
- S3.M6.8- Participates in moderate to vigorous aerobic and/or muscle and bone strengthening physical activity for at least 60 minutes per day at least 5 times a week.
- S4.M4.8- Responds appropriately to participants' ethical and unethical behavior during physical activity by using rules and guidelines for resolving conflicts.

Enduring Understandings:

- How different sports and games affect heart rate
- Competency and practice of movement skills (dribbling, striking, etc.) leads to improved performance
- The importance of offensive and defensive strategies and tactics during small-sided and/or modified games

Essential Questions / Provocative Questions:

- Why would it be important to know what certain games and activities do for heart rate?
- How can you raise your opponents' heart rate by using various offensive and/or defensive strategies?

Knowledge - Students will know:

- How to use the Spirit HRM system
- How to read their HR report
- The cues for proper dribbling with dominant and non-dominant hands and feet
- The cues for a mature pattern of forehand and backhand strokes with short and/or long-handled implements
- The different offensive tactics to create open space in invasion and net/wall games

Skill - Students will be able to (do):

- Use a heart rate monitor to self-monitor quantity of exercise
- Dribble with dominant and non-dominant hands using a change of speed and direction in small-sided game play
- Foot-dribbles with control, changing speed and direction during small-sided game play
- Strikes with a mature overhand pattern in a modified game
- Demonstrate the mature form of forehand and backhand strokes with a short or long-handled implement with power and accuracy
- Reduce open space by anticipating the speed of the object and person for the purpose of interception or deflection



