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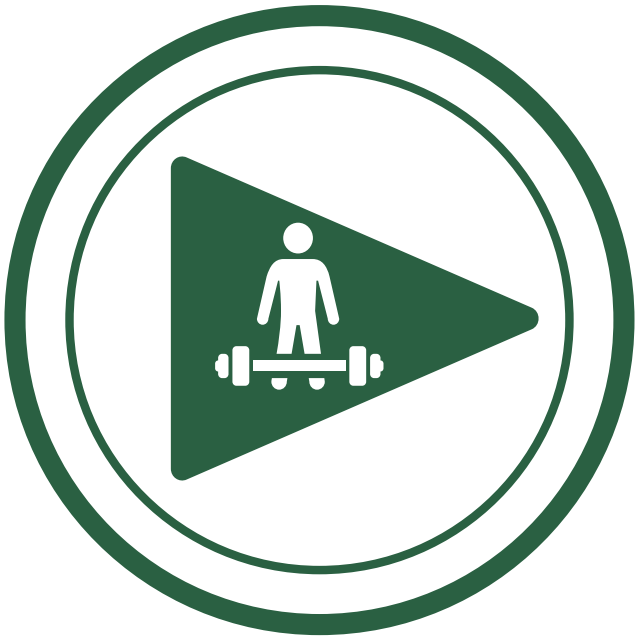
Online Physical Education Network



TOOLS FOR LEARNING
PLUG & PLAY FITNESS

HIGH SCHOOL

The Virginia Standards of Learning Project

THE AMP LAB

SUNY Cortland

OPENPhysEd.org

A PUBLIC SERVICE OF US Games

TOOLS FOR LEARNING
PLUG & PLAY FITNESS

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In partnership with the Cooper Institute and the SUNY Cortland AMP Lab.
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MODULE OVERVIEW

High School Plug & Play activities increase exercise intensity with a focus on exercise form, safety, and understanding perceived exertion. Utilizing heart rate monitor technology can enhance teachable moments and increase student motivation.

- **Standard 2 [10.a & f]** 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 (a); Apply rate of perceived exertion (RPE) and pacing to a conditioning plan that meets the needs of one or more lifetime activities (f).
- **Standard 2 [11/12.a]** Explain and apply biomechanical and physiological principles that aid in the improvement of skills and performance in specialized movement forms, to include laws of motion, leverage, balance, weight transfer, speed, timing, accuracy, force, cardiac output, maximal oxygen consumption (VO2 max), energy systems (aerobic and anaerobic), heart rate (resting, target, and recovery), caloric cost of activity, muscle contraction, static versus dynamic flexibility, and muscular strength versus muscular endurance (a).
- **Standard 3 [9.d]** Explain the relationship between heart rate, training zones, and exercise intensity, to include measures (e.g., heart rate monitors, pedometers, accelerometers) and appropriate training zones to meet exercise and personal fitness goals (d).
- **Standard 3 [10.b]** Use a variety of resources, including available technology, to analyze current fitness and activity levels, and to improve physical activity and personal fitness (b).

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MODULE OVERVIEW

PLANNING COMPLETE LESSONS

Each Plug & Play Fitness activity in this module is meant to be one part of a complete lesson. Plug & Play activities can be plugged into any skill module as a way to incorporate fitness concepts throughout the school year. OPEN National Trainers recommend the following formula for creating a 30- to 45-minute lesson:

Plug & Play Fitness Activity	*5–10 minutes*
+ Skill Module Activity with Debrief	*10–15 minutes*
+ Skill Module Activity with Debrief	*10–15 minutes*
+ Check for Understanding	*5 minutes*

Some ideas for incorporating Plug & Play Fitness activities into block plans include:

- Plug & Play Instant Activities
- Fitness Fridays with one or more Plug & Play Activity
- Fitness wrap-ups at the end of short lessons using Plug & Play DOK Exit Slips as assessments

Important: Suggestions are what they say they are – *suggestions*. All OPEN materials are offered in MS Word format so that you can easily modify our suggestions to meet the needs of your students.

ASSESSMENT

Three types of assessments are provided as a part of this module. However, there are many different ways for teachers and students to assess and evaluate student learning and skill development.

Academic Language Quiz
Assess student fitness knowledge throughout the year with short quizzes focused on the academic language of fitness. Use the provided quiz as-is or as a template for creating other Plug & Play Fitness quizzes.

DOK Exit Slips
Plug & Play Fitness activities are meant to offer fitness-building physical activity as well as a context for discussing fitness concepts. Use the provided DOK Exit Slips to document student understanding.

As you review completed DOK Exit Slips, take note of topics and concepts for which students need additional instruction. Allow your observations to guide future planning and instruction.

Blank Routine Worksheets
Each blank worksheet can be used to check for understanding of fitness concepts as well as to reinforce the individualized nature of personal fitness preferences. Encourage students to use their custom worksheet for their at-home workouts.

QTY	NAME	CODE	US Games USGAMES.COM
24	Low Profile Cones	1255690	Link to e-Store
12	12” or larger Game Cones	1093452	Link to e-Store
12	Task Tents	1389878	Link to e-Store
12	No-Kink Hoops	02170	Link to e-Store
6	Large Foam Dice	1197891	Link to e-Store
24	Bean Bags	1064179	Link to e-Store
24	Plastic Cones	189	Link to e-Store
			OPENPhysEd.org
	Partner Burn-Out Charts		OPENPhysEd.org
	Pace Station Cards		OPENPhysEd.org
	Down-Up Rep Charts		OPENPhysEd.org
	Heart Rate Zone Chart		OPENPhysEd.org
	Perceived Exertion Card		OPENPhysEd.org
	Academic Language Cards		OPENPhysEd.org

PARTNER REP BURN-OUT

STUDENT TARGETS

- **Skill:** I will pace activity based on my target heart rate zone.
- **Cognitive:** I will calculate my target heart rate and identify my target zone.
- **Fitness:** I will discuss the concept of perceived exertion with my classmates.
- **Personal & Social Responsibility:** I will participate safely with attention to exercise form and injury prevention.

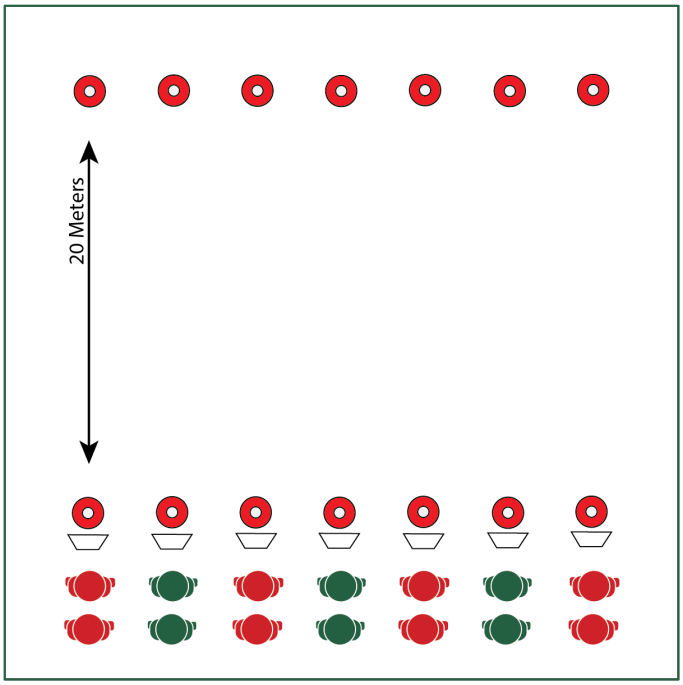
TEACHING CUES

- Focus on Form
- Pace for the Zone

ACTIVITY SET-UP & PROCEDURE

Equipment:
- 2 cones or floor markers per pair of students
- 1 Burn-Out Chart per pair
- Music and music player
- Task tents (optional)

Set-Up:
1. Create 2 parallel lines of cones 20 meters apart.
2. Pair students, each pair at a cone on 1 side of the activity area. Each pair with a Burn-Out Chart.



Activity Procedures:
1. It's time for our Plug & Play Fitness activity called Partner Rep Burn-Out. The object of this activity is for you and your partner to complete 100 repetitions of each exercise listed on the Burn-Out Chart.
2. When the music starts, Partner A will begin the exercise listed on the chart while Partner B begins to jog down and around the 20-meter cone.
3. When Partner B returns, Partner A will tell her/him how many reps have been completed. The partners will switch roles, and Partner B will continue the exercise, counting reps up from the number completed by Partner A.
4. Repeat until together you've completed 100 reps of the exercise, they then move on to the next exercise listed on the chart. This pattern continues until the music stops.

Grade Level Progression:
L1: Take time to calculate or review personal target heart rate information. Use heart rate monitor technology to monitor time in zone.
L2: Using projected heart rate data, students track personal heart rate data and pace their activity to maximize time in the target heart rate zone.

PARTNER REP BURN-OUT

UNIVERSAL DESIGN ADAPTATIONS

- Modify the Burn-Out Chart to provide the appropriate intensity levels for your students.
- Provide visual and auditory cues for each exercise on the Burn-Out Chart.

ACADEMIC LANGUAGE

Adjust, Calculate, Heart Rate, Heart Rate Zone, Pace, Perceived Exertion, Repetition, Technique

STANDARDS & OUTCOMES ADDRESSED

- **Standard 2 [10.a & f]** 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 (a); Apply rate of perceived exertion (RPE) and pacing to a conditioning plan that meets the needs of one or more lifetime activities (f).
- **Standard 2 [11/12.a]** Explain and apply biomechanical and physiological principles that aid in the improvement of skills and performance in specialized movement forms, to include laws of motion, leverage, balance, weight transfer, speed, timing, accuracy, force, cardiac output, maximal oxygen consumption (VO2 max), energy systems (aerobic and anaerobic), heart rate (resting, target, and recovery), caloric cost of activity, muscle contraction, static versus dynamic flexibility, and muscular strength versus muscular endurance (a).
- **Standard 3 [9.d]** Explain the relationship between heart rate, training zones, and exercise intensity, to include measures (e.g., heart rate monitors, pedometers, accelerometers) and appropriate training zones to meet exercise and personal fitness goals (d).
- **Standard 3 [10.b]** Use a variety of resources, including available technology, to analyze current fitness and activity levels, and to improve physical activity and personal fitness (b).

DEBRIEF QUESTIONS

- **DOK 1:** What is perceived exertion?
- **DOK 2:** What do you know about the different levels of perceived exertion? (RPE Scale 1-10)
- **DOK 3:** How is perceived exertion related to exercise intensity?
- **DOK 4:** Using information from the Perceived Exertion Chart, analyze your effort and intensity during Partner Rep Burn-Out.

TEACHING STRATEGY FOCUS

Identify critical content: Working to meet student outcomes and identifying critical content from national and state outcomes are the first steps in backwards design planning. As students progress through their academic careers, the complexity of critical content increases. Perceived exertion is a complex fitness concept that students can experience and understand as their bodies respond to exercises and activities of different intensity levels. This is an important strategy for personalizing fitness education and helping students find relevance in complex concepts taught in the physical education classroom.

PLANK RACES

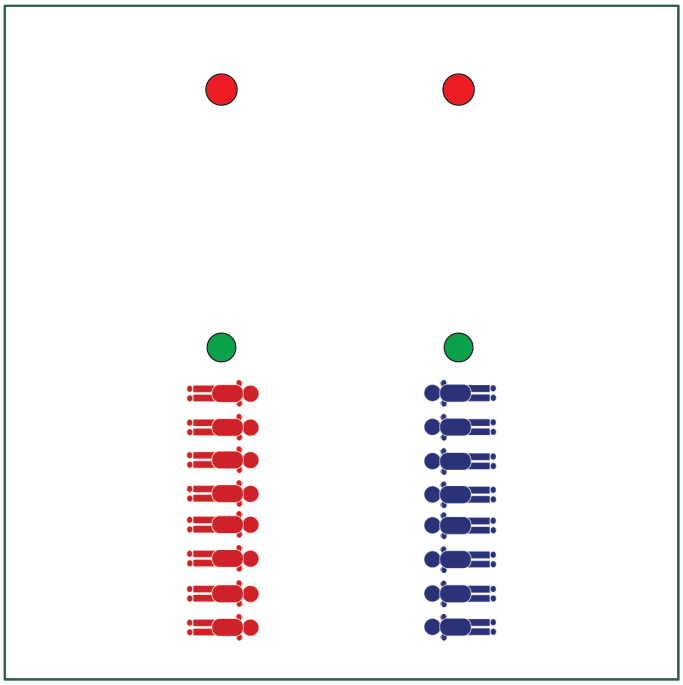
STUDENT TARGETS

- **Skill:** I will perform plank position with perfect technique.
- **Cognitive:** I will identify the energy systems used in muscular strength and endurance activities.
- **Fitness:** I will maintain exercise form and adjust my level of appropriate challenge based on fatigue.
- **Personal & Social Responsibility:** I will participate safely with attention to exercise form and injury prevention.

TEACHING CUES

- Focus on Form
- Give Your Best Effort
- Compete with Respect, Kindness, and Fun

ACTIVITY SET-UP & PROCEDURE



Equipment:
- 4 cones to create start and finish lines

Set-Up:
1. Create 2 parallel lines as start and finish lines. Increase or decrease the distance based on class size and fitness level.
2. Divide the class into 2 teams. Each team in a line behind the starting line.

Activity Procedures:
1. It's time for Plank Races. On the ready signal, all students will drop into plank position, shoulder to shoulder in a single-file line at the starting line.
2. On the go signal, the student at the back of each line will get up, run to the front of the line, and then resume plank position before yelling, "GO!" The next student at the end of the line will then repeat this pattern until all students are across the finish line.

Grade Level Progression:
L1: Prompt students to describe and demonstrate plank position with an emphasis on proper alignment and injury prevention.
L2: Provide instruction and discussion about the energy systems used in muscular strength and muscular endurance activities.

PLANK RACES

UNIVERSAL DESIGN ADAPTATIONS

- Replace planks with another isometric exercise appropriate for all students in your class.
- Modify the distance of the race.
- Modify the size of the teams and method for traveling from end to end.

ACADEMIC LANGUAGE

Adjust, Alignment, Energy Systems, Aerobic Glycolysis, Anaerobic Glycolysis, Exercise Form, Fatigue, Plank, Safety

STANDARDS & OUTCOMES ADDRESSED

- **Standard 2 [10.a & f]** 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 (a); Apply rate of perceived exertion (RPE) and pacing to a conditioning plan that meets the needs of one or more lifetime activities (f).
- **Standard 2 [11/12.a]** Explain and apply biomechanical and physiological principles that aid in the improvement of skills and performance in specialized movement forms, to include laws of motion, leverage, balance, weight transfer, speed, timing, accuracy, force, cardiac output, maximal oxygen consumption (VO2 max), energy systems (aerobic and anaerobic), heart rate (resting, target, and recovery), caloric cost of activity, muscle contraction, static versus dynamic flexibility, and muscular strength versus muscular endurance (a).

DEBRIEF QUESTIONS

- **DOK 1:** What would you include on a list about aerobic glycolysis? What about a list for anaerobic glycolysis?
- **DOK 2:** How would you compare and/or contrast aerobic glycolysis with anaerobic glycolysis?
- **DOK 3:** How are these energy systems related to your personal fitness?

TEACHING STRATEGY FOCUS

Help students examine similarities and differences: Energy systems are big ideas that can be intimidating to students in physical education classes. Provide the definitions of aerobic glycolysis and anaerobic glycolysis, and then use the exploration of the similarities and differences to help students process the information they're learning.

PACE STATIONS

STUDENT TARGETS

- **Skill:** I will pace activity based on my target heart rate zone.
- **Cognitive:** I will calculate my target heart rate and identify my target zone.
- **Fitness:** I will discuss the concept of perceived exertion with my classmates.
- **Personal & Social Responsibility:** I will participate safely with attention to exercise form and injury prevention.

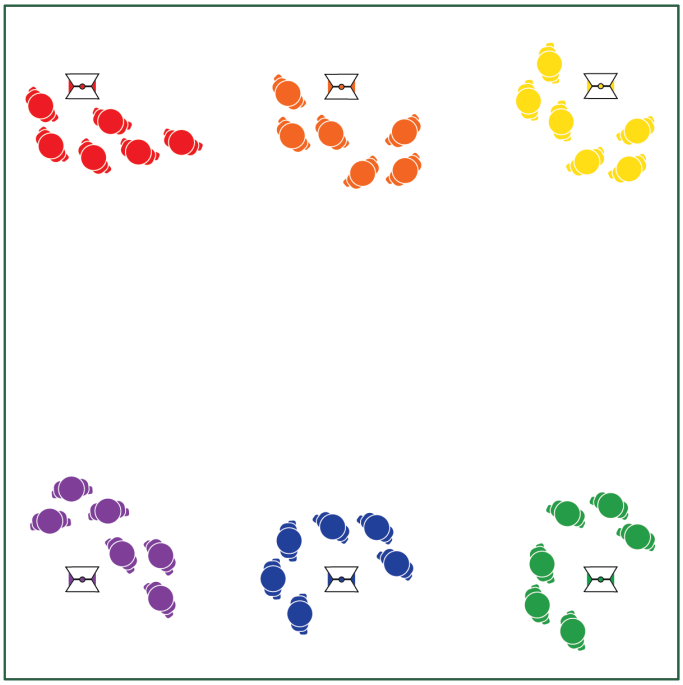
TEACHING CUES

- Focus on Form
- Pace for the Zone

ACTIVITY SET-UP & PROCEDURE

Equipment:
- 6 colored cones to create stations
- 6 task tents
- Pace Station Task Cards
- Fitness equipment needed for each fitness station (optional)

Set-Up:
1. Create a circuit with 6 stations using cones and task tents.
2. Place Pace Station Task Cards inside the task tent at each station.
3. Divide class into 6 groups, each group at a station.



Activity Procedures:
1. It's time for Pace Stations. One station is designated at the Pace Station; today it's the blue station.
2. On the start signal, begin the exercise listed on the task card at your station. The Pace Station has a set number of repetitions to complete. As soon as the group at the Pace Station completes their repetitions, the group will yell, "SWITCH!"
3. On the switch signal, all groups will jog a little over 1 lap clockwise around the entire circuit to stop at the next station (just beyond the one completed). This pattern continues until the circuit is complete or the teacher gives the stop signal.

Grade Level Progression:
L1: Prompt students to describe and demonstrate exercise form at select stations with an emphasis on proper alignment and injury prevention.
L2: Prompt students to set an exertion goal for the activity using the perceived exertion card. At the end of the activity, students give thumbs up if they reached their exertion goal. If heart rate monitoring technology is available, students compare their perceived exertion with heart rate zone data.

PACE STATIONS

UNIVERSAL DESIGN ADAPTATIONS

- Provide a visual cue as a switch signal.
- Modify Pace Station Task Cards to meet the needs of the students in your class.

ACADEMIC LANGUAGE

Aerobic, Aerobic Intensity, Fitness, Heart Rate Monitor, Heart Rate Zone, Pace, Perceived Exertion, Physiological Response

STANDARDS & OUTCOMES ADDRESSED

- **Standard 2 [10.a & f]** 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 (a); Apply rate of perceived exertion (RPE) and pacing to a conditioning plan that meets the needs of one or more lifetime activities (f).
- **Standard 2 [11/12.a]** Explain and apply biomechanical and physiological principles that aid in the improvement of skills and performance in specialized movement forms, to include laws of motion, leverage, balance, weight transfer, speed, timing, accuracy, force, cardiac output, maximal oxygen consumption (VO2 max), energy systems (aerobic and anaerobic), heart rate (resting, target, and recovery), caloric cost of activity, muscle contraction, static versus dynamic flexibility, and muscular strength versus muscular endurance (a).
- **Standard 3 [9.d]** Explain the relationship between heart rate, training zones, and exercise intensity, to include measures (e.g., heart rate monitors, pedometers, accelerometers) and appropriate training zones to meet exercise and personal fitness goals (d).
- **Standard 3 [10.b]** Use a variety of resources, including available technology, to analyze current fitness and activity levels, and to improve physical activity and personal fitness (b).

DEBRIEF QUESTIONS

- **DOK 1:** What would you include on a list about perceived exertion?
- **DOK 2:** How would you summarize the different levels listed on the Rate of Perceived Exertion Scale?
- **DOK 3:** How would you adapt a station that you completed today to change the intensity of the activity, and therefore your perceived exertion?

TEACHING STRATEGY FOCUS

Organize students to interact with content: Much of fitness education is experiential. As students learn and process cognitive concepts, they must experience the physiological response that their body has as it relates to the fitness ideas being studied. Pace stations allow teachers to design fitness circuits that provide beneficial physical activity while also emphasizing critical fitness concepts.

DOWN-UP REPS

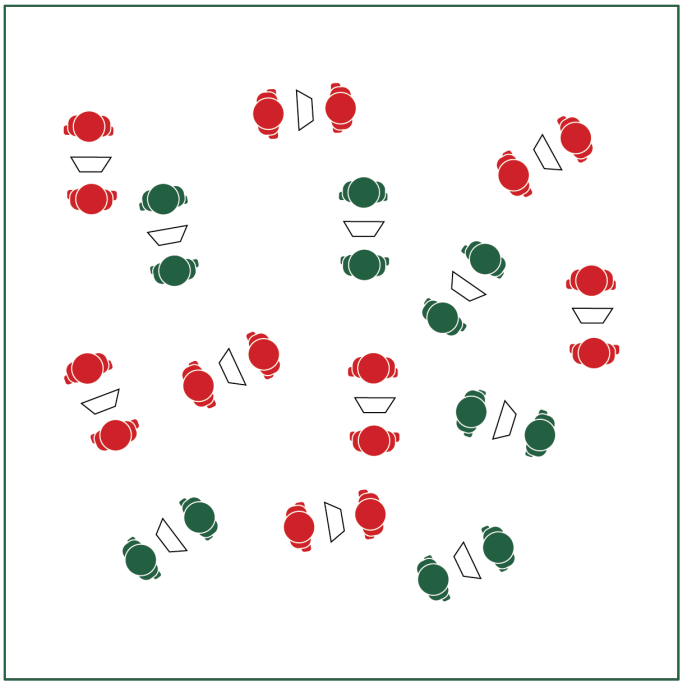
STUDENT TARGETS

- **Skill:** I will pace activity based on my target heart rate zone.
- **Cognitive:** I will calculate my target heart rate and identify my target zone.
- **Fitness:** I will discuss the concept of heart rate zones.
- **Personal & Social Responsibility:** I will participate safely with attention to exercise form and injury prevention.

TEACHING CUES

- Focus on Form
- Pace for the Zone

ACTIVITY SET-UP & PROCEDURE



Equipment:
- 1 Down-Up Rep Chart per pair of students

Set-Up:
1. Students in pairs scattered in open space.
2. Each pair with a Down-Up Rep Chart.

Activity Procedures:
1. Let's get a burst of fitness-enhancing exercise with Down-Up Reps! As soon as you and your partner have a chart and find open space, you can begin your reps. With your partner, choose your level of fitness challenge.
2. Partner A will begin by completing the repetitions for Round 1. When the repetitions are complete, Partner A will rest, and Partner B will begin the exercise. When Partner B has completed the repetitions for Round 1, she/he will rest while Partner A moves on to Round 2. The pattern continues until all 9 rounds have been completed.
3. This is called Down-Up Reps because the number of reps decreases down and then increases back up to the original starting point.

Grade Level Progression:
L1: Take time to calculate or review personal target heart rate information. Use heart rate monitor technology to monitor time in zone.
L2: Prompt students to set an exertion goal for the activity using the perceived exertion card. At the end of the activity, students give thumbs up if they reached their exertion goal. If heart rate monitoring technology is available, students compare their perceived exertion with heart rate zone data.

DOWN-UP REPS

UNIVERSAL DESIGN ADAPTATIONS

- Modify the Down-Up Rep Chart to meet the needs of the students in your class.
- Provide visual and auditory demonstrations for each exercise on the Down-Up Rep Chart.

ACADEMIC LANGUAGE

Benefit, Fitness, Heart Rate Zone, Perceived Exertion, Repetition, Technique

STANDARDS & OUTCOMES ADDRESSED

- **Standard 2 [10.a & f]** 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 (a); Apply rate of perceived exertion (RPE) and pacing to a conditioning plan that meets the needs of one or more lifetime activities (f).
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- **Standard 3 [9.d]** Explain the relationship between heart rate, training zones, and exercise intensity, to include measures (e.g., heart rate monitors, pedometers, accelerometers) and appropriate training zones to meet exercise and personal fitness goals (d).

DEBRIEF QUESTIONS

- **DOK 1:** How would you describe target heart rate?
- **DOK 2:** How is your target heart rate affected by your fitness goals?
- **DOK 3:** How would you adapt a Down-Up Rep Chart based on different fitness goals (e.g., weight loss vs athletic performance)?

TEACHING STRATEGY FOCUS

Help students record and represent knowledge: The ultimate goal of fitness education is the routine application of both knowledge and skill in a physically active lifestyle. Providing your students with opportunities to design fitness activities and routines based on what they've experienced in class is a great way for them to create their own representations of that they've learned.

MUSIC MOVES

STUDENT TARGETS

- **Skill:** I will maintain proper body alignment while performing burpees.
- **Cognitive:** I will discuss the benefits of routine physical activity breaks as related to personal productivity.
- **Fitness:** I will create a Music Moves routine to be used as a physical activity break during my school/work day.
- **Personal & Social Responsibility:** I will participate safely with attention to exercise form and injury prevention.

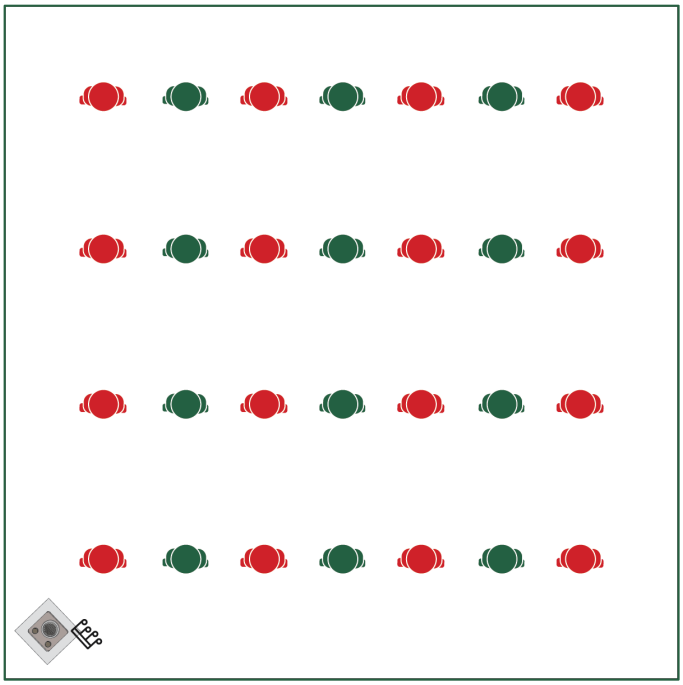
TEACHING CUES

- Focus on Form
- Build Fun and Vigorous Routines

ACTIVITY SET-UP & PROCEDURE

Equipment:
- *Ghostbusters* by Ray Parker Jr.
- Music player

Set-Up:
1. Students scattered with room to safely perform a burpee.
2. Music player ready to play.



Activity Procedures:
1. We're going to learn the Music Moves concept using the song *Ghostbusters*. When the music begins, everyone will start doing jumping jacks.
2. Whenever the song gets to the word, "Ghostbusters!" everyone will perform a single burpee and then return to jumping jacks. We'll continue until the song is over.
3. Once we learn and practice this workout format, we'll work in pairs to create our own Music Moves routines.

Grade Level Progression:
L1: Discuss the benefits of routine physical activity breaks and strategies for creating physical activity habits.
L2: Have students create multiple Music Moves routines, predict the exertion rate of each, and then perform each routine, checking their perceived exertion level upon completion of the routine.

MUSIC MOVES

UNIVERSAL DESIGN ADAPTATIONS

- Modify or replace jumping jacks and burpees so that all students can participate.
- Provide visual signals to indicate when it's time to change exercise.

ACADEMIC LANGUAGE

Aerobic Intensity, Benefit, Burpee, Exercise Form, Fatigue, Muscular Endurance, Physical Activity Break, Routine

STANDARDS & OUTCOMES ADDRESSED

- **Standard 2 [11/12.a]** Explain and apply biomechanical and physiological principles that aid in the improvement of skills and performance in specialized movement forms, to include laws of motion, leverage, balance, weight transfer, speed, timing, accuracy, force, cardiac output, maximal oxygen consumption (VO2 max), energy systems (aerobic and anaerobic), heart rate (resting, target, and recovery), caloric cost of activity, muscle contraction, static versus dynamic flexibility, and muscular strength versus muscular endurance (a).
- **Standard 3 [10.b]** Use a variety of resources, including available technology, to analyze current fitness and activity levels, and to improve physical activity and personal fitness (b).

DEBRIEF QUESTIONS

- **DOK 1:** How can you recognize a physically active lifestyle?
- **DOK 2:** How would you apply a physical activity break within a physically active lifestyle?
- **DOK 3:** How is routine physical activity related to your productivity? Give specific examples.
- **DOK 4:** Create a list of strengths and weaknesses related to the physical activity levels of your daily personal routine. Identify one area of weakness and a strategy for personal improvement in this area.

TEACHING STRATEGY FOCUS

Manage response rates with tiered questioning techniques: Utilize OPEN's DOK debrief questions in a purposeful way with attention and patience for complex dialogue. Taking class time for these discussions is essential for understanding your students' readiness for increasing complexity and the effectiveness of your instruction.

FLIPPER SPRINTS

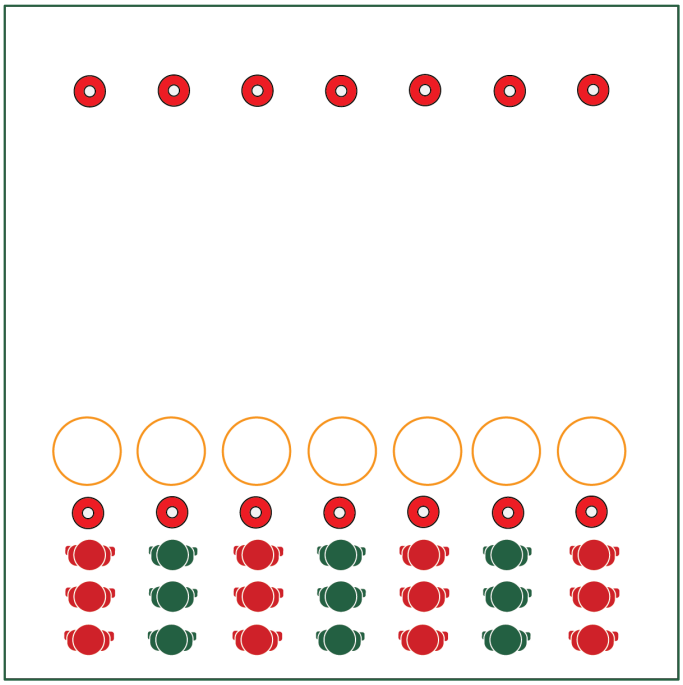
STUDENT TARGETS

- **Skill:** I will pace activity based on my target heart rate zone.
- **Cognitive:** I will calculate my target heart rate and identify my target zone.
- **Fitness:** I will discuss possible applications for heart rate technology in my personal fitness routine.
- **Personal & Social Responsibility:** I will participate safely with attention to exercise form and injury prevention.

TEACHING CUES

- Pace for the Zone
- Move Safely
- Dive for Deeper Discussion

ACTIVITY SET-UP & PROCEDURE



Equipment:
- 2 cones per team
- 1 hoop per team

Set-Up:
1. Create 2 parallel lines of cones 20 meters apart.
2. Place a hoop in front of each cone.
3. Create teams of 2–4 players, each team at a cone.

Activity Procedures:
1. It's time for a fun race called Flipper Sprints. The object of the race is to flip your hoop all the way to the other cone.
2. On the start signal, the first person in line will flip the hoop toward the opposite cone, jump in and out of the hoop, and then sprint around the far cone and back again.
3. When the runner returns to the line, the next teammate will run to the hoop, flip it 1 more time toward the opposite cone, jump in and out of the hoop, and then sprint around the far cone and back again.
4. Continue this pattern until the hoop has been flipped all the way to the far cone. The first team whose hoop reaches the far cone wins.

Grade Level Progression:
L1: Utilize tires or heavy hoops in this activity with an emphasis an exercise alignment for proper squats.
L2: Prompt students to develop the application of heart rate monitoring in their out-of-school fitness routines.

FLIPPER SPRINTS

UNIVERSAL DESIGN ADAPTATIONS

- Change the locomotor movement used in this activity.
- Modify the distance between cones.

ACADEMIC LANGUAGE

Heart Rate Monitor, Heart Rate Zone, Pace, Personal Fitness Plan

STANDARDS & OUTCOMES ADDRESSED

- **Standard 2 [11/12.a]** Explain and apply biomechanical and physiological principles that aid in the improvement of skills and performance in specialized movement forms, to include laws of motion, leverage, balance, weight transfer, speed, timing, accuracy, force, cardiac output, maximal oxygen consumption (VO2 max), energy systems (aerobic and anaerobic), heart rate (resting, target, and recovery), caloric cost of activity, muscle contraction, static versus dynamic flexibility, and muscular strength versus muscular endurance (a).
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- **Standard 3 [10.b]** Use a variety of resources, including available technology, to analyze current fitness and activity levels, and to improve physical activity and personal fitness (b).

DEBRIEF QUESTIONS

- **DOK 1:** What is a heart rate monitor?
- **DOK 2:** How could you apply heart rate monitor technology in your personal fitness plan?
- **DOK 3:** What facts would you select to support the use of a heart rate monitor for personal fitness? Can you elaborate on why you chose those facts?

TEACHING STRATEGY FOCUS

Help students practice skills, strategies, and processes: Personal fitness devices generate billions of dollars in revenue each year in the home fitness market. Exploring the functionality of these devices is a critical part of modern physical education instruction. By using heart rate monitoring systems as a part of the physical education classroom, you're helping students practice the skills and strategies commonly used for personal fitness assessment and motivation.

UPSIDE DOWN

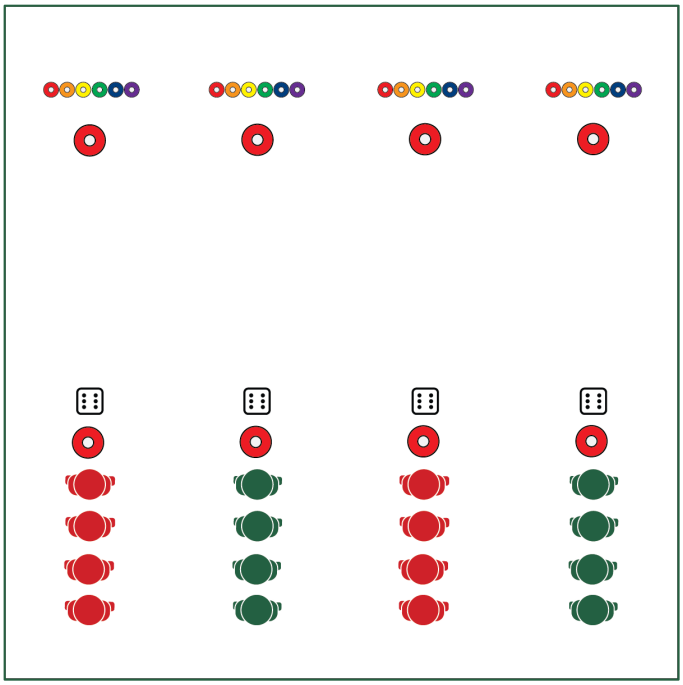
STUDENT TARGETS

- **Skill:** I will pace activity based on my target heart rate zone.
- **Cognitive:** I will calculate my target heart rate and identify my target zone.
- **Fitness:** I will discuss the benefits of an active lifestyle.
- **Personal & Social Responsibility:** I will participate safely with attention to exercise form and injury prevention.

TEACHING CUES

- Pace for the Zone
- Move Safely
- Dive for Deeper Discussion

ACTIVITY SET-UP & PROCEDURE



Equipment:
- 2 large cones per team of 2–4 players
- 6 low-profile cones per team of 2–4 players
- 1 six-sided die per team of 2–4 players

Set-Up:
1. Use large cones to create start and finish lines 20 meters apart.
2. Place the dice at each starting cone and 6 low-profile cones at each finish cone. Number each low-profile cone 1 through 6, going from left to right.
3. Create teams of 2–4 players, each team at a starting cone.

Activity Procedures:
1. Let's work on our 20-meter pacer running with the game Upside Down. The object of the game is to get all of your team's cones upside down.
2. On the start signal, the first person in line rolls the die and then runs down to flip the cone that corresponds to the number rolled.
3. As soon as that player returns to the line, the next player rolls the die and runs down to flip the appropriate cone.
4. If a number is rolled again, corresponding cones are flipped back right-side up.
5. Play the game until one team gets all cones upside down, or time runs out (set an appropriate amount of time based on your lesson).

Grade Level Progression:
L1: Use a debrief session to discuss how routine physical activity impacts student productivity and effectiveness in the classroom and/or work environment.
L2: Using heart rate monitor technology, challenge students to identify and then work toward their Heart Health Zone with a focus on either basic endurance and fat burning or building aerobic fitness and performance capacity.

UPSIDE DOWN

UNIVERSAL DESIGN ADAPTATIONS

- Modify the distance students travel to meet the needs of all participants.
- Use scooters to move through the 20-meter distance between dice and low-profile cones.

ACADEMIC LANGUAGE

Active Lifestyle, Benefit, Fitness, Heart Rate Zone

STANDARDS & OUTCOMES ADDRESSED

- **Standard 2 [10.a & f]** 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 (a); Apply rate of perceived exertion (RPE) and pacing to a conditioning plan that meets the needs of one or more lifetime activities (f).
- **Standard 2 [11/12.a]** Explain and apply biomechanical and physiological principles that aid in the improvement of skills and performance in specialized movement forms, to include laws of motion, leverage, balance, weight transfer, speed, timing, accuracy, force, cardiac output, maximal oxygen consumption (VO2 max), energy systems (aerobic and anaerobic), heart rate (resting, target, and recovery), caloric cost of activity, muscle contraction, static versus dynamic flexibility, and muscular strength versus muscular endurance (a).
- **Standard 3 [9.d]** Explain the relationship between heart rate, training zones, and exercise intensity, to include measures (e.g., heart rate monitors, pedometers, accelerometers) and appropriate training zones to meet exercise and personal fitness goals (d).
- **Standard 3 [10.b]** Use a variety of resources, including available technology, to analyze current fitness and activity levels, and to improve physical activity and personal fitness (b).

DEBRIEF QUESTIONS

- **DOK 1:** What would you include on a list about the benefits of an active lifestyle?
- **DOK 2:** How can an active lifestyle affect a person's social life?
- **DOK 3:** How is an active lifestyle related to a person's social and emotional well-being?

TEACHING STRATEGY FOCUS

Help students examine their reasoning: By the time students get to high school, they have developed reasoning that either promotes or diminishes their desire to be physically active. While personal health is an important reason to be active, students are often focused more on peer interactions and social consequences. Discussing how regular physical activity can enhance their social and emotional well-being is important for guiding students toward a more complete understanding of physical activity and personal fitness.

BEAN BAG BLOCKERS

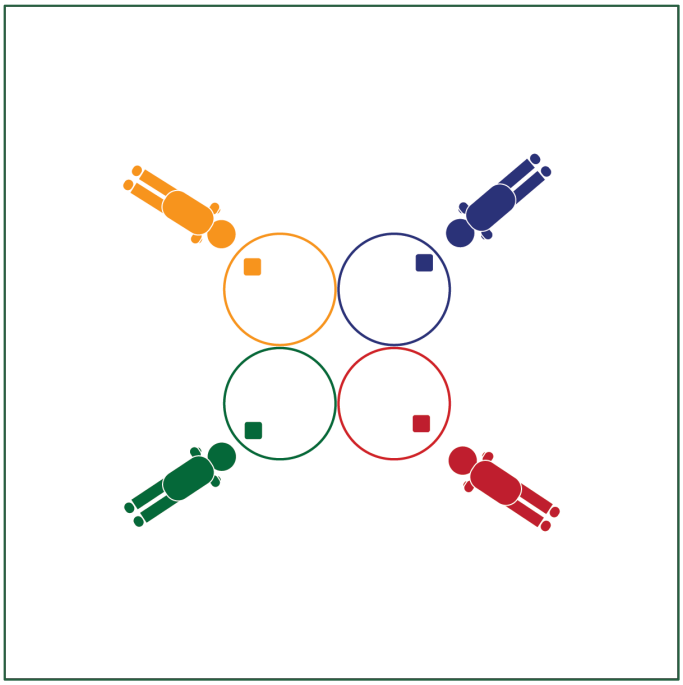
STUDENT TARGETS

- **Skill:** I will perform plank position with perfect technique.
- **Cognitive:** I will identify the energy systems used in different types of physical activity.
- **Fitness:** I will maintain exercise form and adjust my level of appropriate challenge based on fatigue.
- **Personal & Social Responsibility:** I will participate safely with attention to exercise form and injury prevention.

TEACHING CUES

- Focus on Form
- Compete with Respect, Kindness, and Fun

ACTIVITY SET-UP & PROCEDURE



Equipment:
- 4 hoops per group of 4 students
- 4 bean bags per group of 4 students

Set-Up:
1. Create a 2x2 grid using 4 hula hoops, with hoops touching one another.
2. Create groups of 4 students, each group at a hoop grid, and each student with a bean bag.

Activity Procedures:
1. This Plug & Play Fitness activity is called Bean Bag Blockers. The object of the game is for you to have an empty hoop when the music stops. You'll do that by tossing bean bags into other players' hoops while keeping your hoop free of bean bags.
2. To start the activity, all students are in plank position behind their hoop with a bean bag on the floor in between their hands.
3. When the music starts, all players will toss their bean bags into any opponent's hoop. When a bean bag lands in their hoop, they pick it up and quickly toss it into an opponent's hoop.
4. When the music stops, any player with an empty hoop scores a point. If you have a bean bag in your hand or toss it after the music has stopped, you do not score a point.
5. As soon as points are totaled, the music will begin again for a new round of play.

Grade Level Progression:
L1: Discuss the physiological response to sustaining plank position during this activity and the consequences of a loss of proper alignment.
L2: Review energy systems and identity how the body uses each to fuel physical activity.

BEAN BAG BLOCKERS

UNIVERSAL DESIGN ADAPTATIONS

- Modify or replace plank position to make this activity appropriate for all students in your class.
- Provide bean bags of different size, weight, and texture.

ACADEMIC LANGUAGE

Adjust, Alignment, Anaerobic Glycolysis, Energy Systems, Muscular Endurance, Nutritional Balance, Technique

STANDARDS & OUTCOMES ADDRESSED

- **Standard 2 [10.a & f]** 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 (a); Apply rate of perceived exertion (RPE) and pacing to a conditioning plan that meets the needs of one or more lifetime activities (f).
- **Standard 2 [11/12.a]** Explain and apply biomechanical and physiological principles that aid in the improvement of skills and performance in specialized movement forms, to include laws of motion, leverage, balance, weight transfer, speed, timing, accuracy, force, cardiac output, maximal oxygen consumption (VO2 max), energy systems (aerobic and anaerobic), heart rate (resting, target, and recovery), caloric cost of activity, muscle contraction, static versus dynamic flexibility, and muscular strength versus muscular endurance (a).

DEBRIEF QUESTIONS

- **DOK 1:** What would you include on a list about anaerobic glycolysis?
- **DOK 2:** What do you know about anaerobic glycolysis and fatigue?
- **DOK 3:** How would you adapt this activity to shift energy systems from anaerobic glycolysis to aerobic glycolysis?

TEACHING STRATEGY FOCUS

Review content: Energy systems are complex and require multiple touches within a student's fitness education experience. Although deeper scientific understand of these concepts is beyond the scope of the physical education curriculum, students benefit greatly from a rigorous look at glycolysis and how it relates to the bigger picture of fitness and nutrition education.

CONE FLIP CHAOS

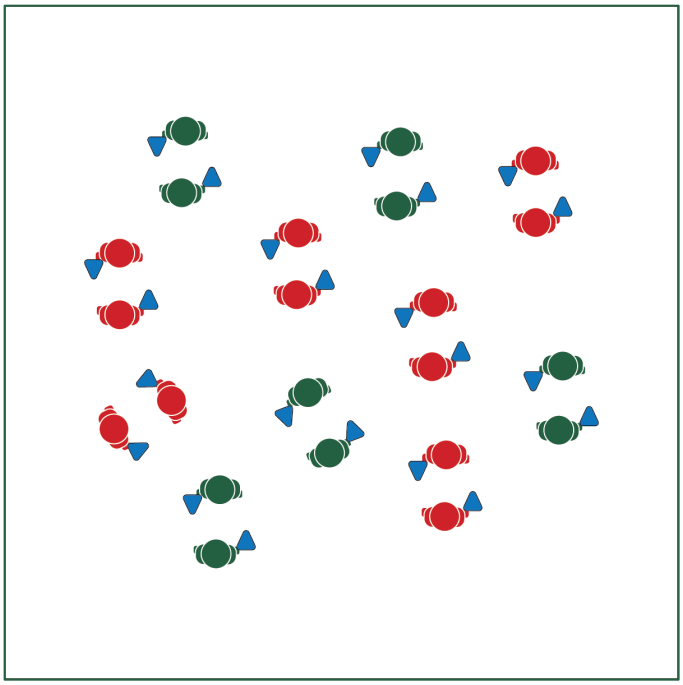
STUDENT TARGETS

- **Skill:** I will pace activity based on my target heart rate zone.
- **Cognitive:** I will calculate my target heart rate and identify my target zone.
- **Fitness:** I will discuss the concept of perceived exertion with my classmates.
- **Personal & Social Responsibility:** I will participate safely with attention to exercise form and injury prevention.

TEACHING CUES

- Pace for the Zone
- Move Safely
- Think Fitness

ACTIVITY SET-UP & PROCEDURE



Equipment:

- 1 cone per student (9" plastic cones are preferred – like this one. Experiment with different types of cones to meet the needs of your students.)

Set-Up:

1. Students scattered throughout the activity area, each student with a cone.

Activity Procedures:

1. Today's fitness activity is called Cone Flip Chaos. The object is to compete against a partner by flipping your cone onto its base before your partner does, and then quickly finding a new partner to challenge.
2. The winner of each challenge round will automatically move to find a new partner. The losing partner will perform 10 jumping jacks before looking for a new partner.
3. You earn 1 flip attempt for every 3 jumping jacks you perform. You can perform any number of consecutive jumping jacks you want, as long as you end on a multiple of 3. For example, if you do 3 jumping jacks you earn 1 flip attempt. If you do 9 consecutive jumping jacks you earn 3 flip attempts.
4. The cone MUST flip 1 or more full rotations in order to be considered a fair flip.
5. Jumping jacks are a basic exercise for teaching this activity to students. Once they learn the rules and know how to play, change the activity to develop any area of health- or skill-related fitness you choose.

Grade Level Progression:

L1: Prompt students to choose an activity to replace jumping jacks in order to improve the health-related fitness component of their choice.

L2: Discuss perceived exertion and how it can be used to modify the activity to make it easier or more challenging.

CONE FLIP CHAOS

UNIVERSAL DESIGN ADAPTATIONS

- Allow students to choose the shape and size of the cone that they use. Provide cones with larger/smaller bases.

ACADEMIC LANGUAGE

Energy Systems, Aerobic Glycolysis, Anaerobic Glycolysis, Energy Systems, Health-Related Fitness, Nutritional Balance, Physiological Response

STANDARDS & OUTCOMES ADDRESSED

- **Standard 2 [10.a & f]** 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 (a); Apply rate of perceived exertion (RPE) and pacing to a conditioning plan that meets the needs of one or more lifetime activities (f).
- **Standard 2 [11/12.a]** Explain and apply biomechanical and physiological principles that aid in the improvement of skills and performance in specialized movement forms, to include laws of motion, leverage, balance, weight transfer, speed, timing, accuracy, force, cardiac output, maximal oxygen consumption (VO2 max), energy systems (aerobic and anaerobic), heart rate (resting, target, and recovery), caloric cost of activity, muscle contraction, static versus dynamic flexibility, and muscular strength versus muscular endurance (a).
- **Standard 3 [9.d]** Explain the relationship between heart rate, training zones, and exercise intensity, to include measures (e.g., heart rate monitors, pedometers, accelerometers) and appropriate training zones to meet exercise and personal fitness goals (d).
- **Standard 3 [10.b]** Use a variety of resources, including available technology, to analyze current fitness and activity levels, and to improve physical activity and personal fitness (b).

DEBRIEF QUESTIONS

- **DOK 1:** How would you perform a set of jumping jacks to illustrate the different levels of the Rate of Perceived Exertion Scale?
- **DOK 2:** How would you compare and/or contrast the various levels of the RPE Scale with one another?
- **DOK 3:** How would you modify this activity if your goal was maintaining your basic aerobic and muscular endurance? How would you modify it if your goal was improving aerobic fitness and performance capacity? Provide reasoning for your modifications.

TEACHING STRATEGY FOCUS

Help students process content: The set of DOK Debrief Questions that are included with this activity prompt students to systematically engage in drawing conclusions about the RPE Scale. Their responses represent a student-centered approach with the expectation that students will work with and demonstrate understanding of the content, not simply listen to discussion or lecture.

SAMPLE LESSON PLAN

FOCUS OUTCOMES

- **Standard 2 [10.a & f]** 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 (a); Apply rate of perceived exertion (RPE) and pacing to a conditioning plan that meets the needs of one or more lifetime activities (f).
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FOCUS TARGETS

- **Skill:** I will pace activity based on my target heart rate zone.
- **Cognitive:** I will calculate my target heart rate and identify my target zone.
- **Fitness:** I will discuss the concept of perceived exertion with my classmates.
- **Personal & Social Responsibility:** I will participate safely with attention to exercise form and injury prevention.

ACADEMIC LANGUAGE

- Pace
- Perceived Exertion
- Repetition
- Technique

SELECTED ASSESSMENT

- Plug & Play Fitness DOK Exit Slips

SAMPLE LESSON PLAN

	TRANSITION NOTES	ACTIVITY	DEBRIEF
1 INSTANT ACTIVITY	Several Perceived Exertion Cards are posted around the physical education classroom and activity space for all students to easily view and access. Burn-Out Charts are placed in a pile for students to pick-up as they find a partner and enter the activity area. As soon as partners have a chart they move to a cone and begin working.	Partner Rep Burn-Out	**DOK 1:** What is perceived exertion? **DOK 2:** What do you know about the different levels of perceived exertion? (RPE Scale 1-10) **DOK 3:** How is perceived exertion related to exercise intensity?
2 LEARNING TASK	Students transition to skill-based activities. *This space is purposely left for you to complete in order to highlight the intended use of Plug & Play activities. This module is not meant to be done together and in sequence; rather, each Plug & Play activity is meant to be embedded into your skill-based modules throughout the school year.*	Choose an activity from your current skill-based module.	Debrief is focused on skill-based concepts.
3 LEARNING TASK	Transition notes for next activity	Choose an activity from your current skill-based module.	Debrief is focused on skill-based concepts.
4 EXIT ASSESSMENT	Students complete Plug & Play Fitness DOK Exit Slips.		

ACTIVE LIFESTYLE

(Noun)

A way of life that values physical activity as an essential part of living; characterized by the integration of physical activity into daily routines and recreation.

As a part of Justin's active lifestyle, he liked to play soccer with his friends every Saturday and Sunday.

ADJUST

(Verb)

To make small changes in order to achieve a desired result.

Mrs. Hart helped Caroline adjust her exercise form in order to fix her alignment.

AEROBIC

(Adjective)

Relating to, involving, or requiring oxygen.

The aerobic exercise routine caused the class to breath faster and talk less.

AEROBIC GLYCOLYSIS

(Noun)

The energy pathway through which oxygen provides the chemical catalyst for the generation of energy. This system is associated with longer, more sustained forms of physical activity.

When Chandler was jogging in the Citywide 5K, his body was using Aerobic Glycolysis to fuel his run.

ALIGNMENT

(Noun)

The correct or appropriate relative positions.

Focusing on your body's alignment can help improve the effectiveness of your workouts and prevent injury.

ANAEROBIC GLYCOLYSIS

(Noun)

The energy pathway through which glucose is transformed without the use of oxygen. This is a fast energy conversion for high intensity bursts of activity and cannot be sustained for a long period of time.

The sprinters knew that their performance in the race was fueled by anaerobic glycolysis.

BENEFIT

(Noun)

An advantage gained from something.

Stronger leg muscles is just one of the many benefits of jumping rope.

BURPEE

(Noun)

A full body exercise performed in four steps:
1) stand tall; 2) squat with hands to floor;
3) feet jump back to plank position;
4) feet jump back to squat position;
then, repeat back up to standing.

Chloe did 10 burpees in order to increase her heart rate quickly.

CALCULATE

(Verb)

To determine the amount or number of something using a mathematical process.

The class used a mathematical formula to calculate their target heart rates.

ENERGY SYSTEMS

(Noun)

Metabolic processes that relate to the flow of energy inside the body. There are 3 energy systems working in the human body: Phosphagen, Anaerobic Glycolysis, and Aerobic Glycolysis.

Victoria was interested to learn that the human body uses 3 energy systems to convert the food she eats into fuel for physical activity and exercise.

EXERCISE FORM

(Noun)

A specific way of performing a physical activity or movement to promote safety, enhance benefits, and avoid injury.

Keeping the knees above and in line with the feet during a squat is an important component of safe exercise form.

FATIGUE

(Noun)

Extreme tiredness, generally resulting from physical or mental exertion.

Moe felt fatigue after a today's 2-hour soccer practice.

FITNESS

(Noun)

The degree to which the total organism is able to meet the physical, intellectual, and emotional demands for everyday living, as well as cope with emergencies.

Loren learned that developing her fitness really helped to improve the way her body and mind felt.

HEALTH-RELATED FITNESS

(Noun)

A group of 5 physical characteristics that contribute to a person's overall well-being. The 5 components of Health-Related Fitness include Cardiovascular Endurance, Muscular Strength, Muscular Endurance, Flexibility, and Body Composition.

Finding a variety of physical activities that you like is a good way to improve and maintain all five components of health-related fitness.

HEART RATE

(Noun)

The speed at which the heart is beating, measured in beats per minute.

Nora checks her heart rate before and after working out and knows that when she is moving faster, her heart rate is going to increase.

HEART RATE MONITOR

(Noun)

Wearable technology that measures real-time heart beats per minute.

The class wore heart rate monitors to measure the intensity of their exercise.

HEART RATE ZONE

(Noun)

A range of heart beats per minute, measured as a percentage of Maximum Heart Rate, identified because specific health benefits are associated with sustained exercise intensity within that range.

Cammy worked within her target heart rate zone in order to maximize the cardiorespiratory benefits of the workout.

INJURY PREVENTION

(Noun)

Deliberate actions, routines, and systems intended to stop harm from happening.

The class created a plan for injury prevention before starting the high intensity interval training session.

INTENSITY

(Noun)

The amount of exertion used when performing an exercise or activity.

You can adjust the intensity of your workout by adding resistance to your movements.

MUSCULAR ENDURANCE

(Noun)

The ability of a muscle to continue to perform without fatigue.

Franklin's ability to do 50 push-ups was an impressive display of muscular endurance.

NUTRITIONAL BALANCE

(Noun)

A way of preparing meals and snacks in which different nutrients are in proportions for optimizing health.

The chef focused on nutritional balance as she prepared meals for the school's wellness committee.

PACE

(Noun)

A steady and consistent speed at which a person moves or works, often in order to avoid becoming overly tired.

It's important to maintain a moderate jogging pace when running a mile.

PARTICIPATE

(Noun)

The act of engaging and taking part in an activity.

The teacher was very happy to see that his students' participation increased during the group fitness unit.

PERCEIVED EXERTION

(Noun)

How hard an individual feels her/his body is working during a bout of physical activity or exercise.

Flow's perceived exertion during the circuit training lesson was a 7 out of 10 because she was breathing very heavily but could still talk with her group about the class challenges.

PERSONAL FITNESS PLAN

(Noun)

A detailed proposal for achieving individual fitness goals.

Danielle created a personal fitness plan to help her prepare for a cross-country ski race.

PHYSICAL ACTIVITY BREAK

(Noun)

A pause in a person's daily routine set aside for moderate to vigorous activity which promotes physical and mental health benefits.

The class took a physical activity break in order to refresh their minds and bodies before the test.

PHYSIOLOGICAL RESPONSE

(Noun)

An automatic reaction of the body / body systems in response to an event or stimulus.

Increased heart rate is one physiological response to physical activity.

PLANK

(Noun)

An exercise in which a person balances horizontally on the toes and forearms (or hands) while holding the rest of the body up and off the ground.

Bryce held plank position after completing 5 push-ups.

PRODUCTIVITY

(Noun)

The effectiveness of a purposeful and productive effort.

One of the benefits of regular exercise is an increase in your productivity.

REPETITION

(Noun)

A thing repeated, such as an exercise.

The class performed 10 repetitions of each exercise during the group warm-up.

ROUTINE

(Noun)

A set sequence of steps.

Using the skills they have learned throughout the unit, the students put together a routine that included at least 4 different skills.

SAFETY

(Noun)

The condition of being protected against physical, social, and emotional harm.

The personal trainer was very focused on safety because her clients were inexperienced with Tabata training.

TARGET

(Noun)

An object selected as the aim of attention or attack.

Jodi wanted to stay in her target heart rate zone during the Tabata exercise class.

TECHNIQUE

(Noun)

A skillful or efficient way of performing an activity.

A focus on exercise technique will help your workouts be effective and safe.

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TOOLS FOR LEARNING
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UNIVERSAL DESIGN ADAPTATIONS

Universal Design for Learning (UDL) is a strategy for eliminating instructional and environmental barriers for every member of a learning community in order to meet the needs of all students across the continuum of physical, intellectual, and emotional abilities. Although we acknowledge that it would be impossible to build one curriculum to meet the needs of every single child, we strongly believe that striving to maximize the active and meaningful participation for all students is a core responsibility of every educator.

OPEN has embraced this responsibility by creating suggested Universal Design Adaptations intended to serve as baseline recommendations for modifying learning activities. The text *Strategies for Inclusion: A Handbook for Physical Educators* by Lauren J. Lieberman and Cathy Houston-Wilson provides the foundation for our work in this area.

The table below offers additional adaptations in an effort to move closer to the ideal of Universal Design.

Potential Universal Design Adaptations for Plug & Play Fitness

Equipment	Rules	Environment	Instruction
• Provide activity cards in large-print versions or use an LCD projector • Provide equipment of various sizes • Utilize a variety of balls and bean-bag-style objects that are easy to see, hold, throw, and strike • Increase or decrease the amount of equipment used in an activity to decrease the complexity	• Change the boundaries of activities to allow for more or less movement • Provide students with the opportunity to modify rules to match their skills and interests • Create custom exercise cards and charts to meet the needs of students	• Provide visual cues and reminders throughout the activity area • Create smaller versions of activities managed in a station-style format	• Provide a variety of demonstrations and cues to help students experience perfect exercise form • Provide ongoing verbal cues • Use peer tutors to assist with instruction and participation • Use pictures and/or video for instruction • Individualize instruction with one-to-one interactions

Lieberman, L.J., & Houston-Wilson, C. (2009). *Strategies for inclusion: A handbook for Physical Educators (2nd ed.).* Champaign, IL: Human Kinetics.

Partner Burn-Out Chart: 100 Reps!

With a partner, work together to complete a total of 100 reps of each exercise listed below.
Move from 1 exercise to the next as soon as you complete 100 reps.

Exercise 1	Jumping Jacks [Video Link]
Exercise 2	Push-Ups [Video Link]
Exercise 3	Twist Jacks [Video Link]
Exercise 4	Plank Shoulder Taps [Video Link]
Exercise 5	Plank Jacks [Video Link]

Burn (noun): A hot sensation in the muscles experienced as a result of sustained vigorous exercise.

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Partner Burn-Out Chart: 100 Reps!

With a partner, work together to create a custom Burn-Out Chart.

Names: _____

Exercise 1	_____
Exercise 2	_____
Exercise 3	_____
Exercise 4	_____
Exercise 5	_____

Burn (noun): A hot sensation in the muscles experienced as a result of sustained vigorous exercise.

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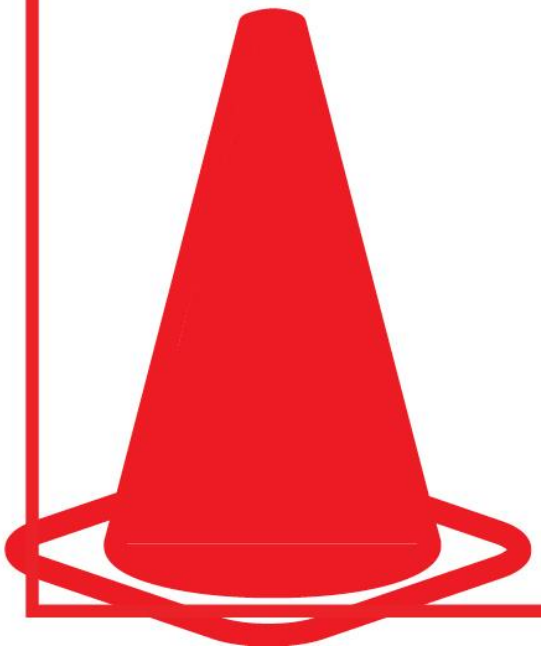
25 Burpees

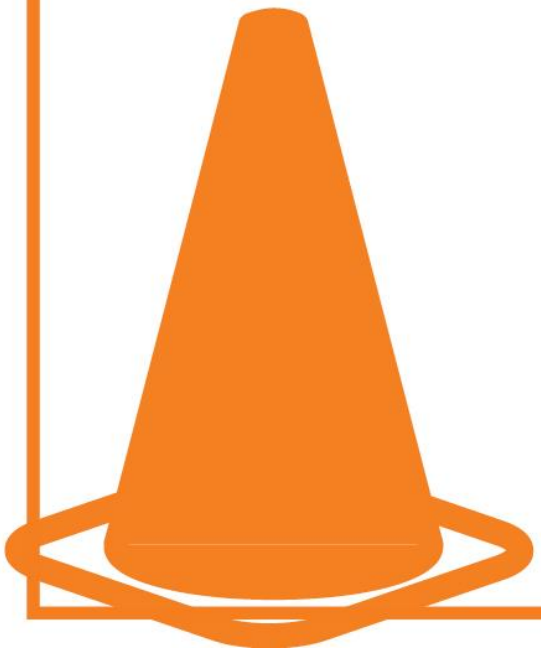
[Video Link]



PACE STATION:
When complete,
call out, “SWITCH!”

Half Jacks

[Video Link]

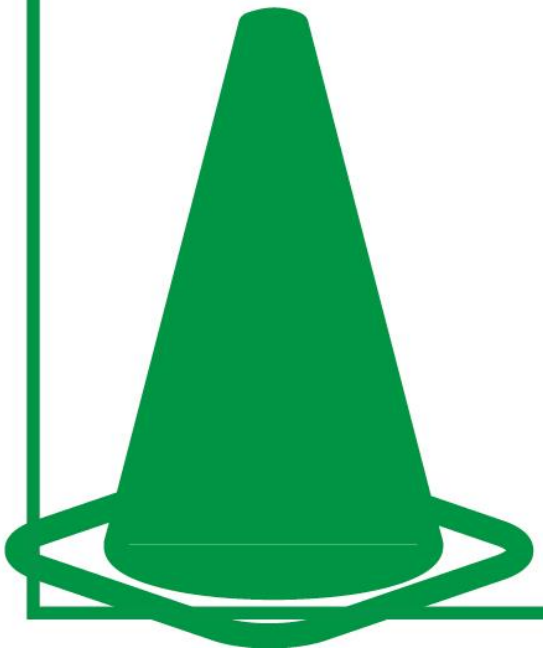


Bridge Taps

[Video Link]

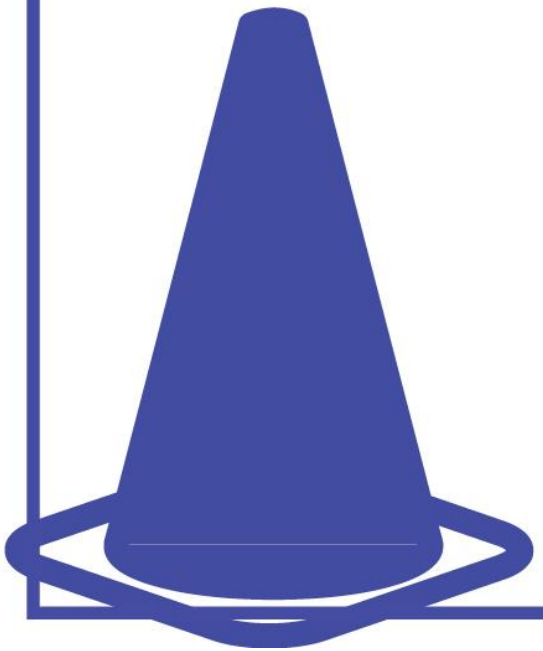
Alt Arm / Leg Raises

[Video Link]



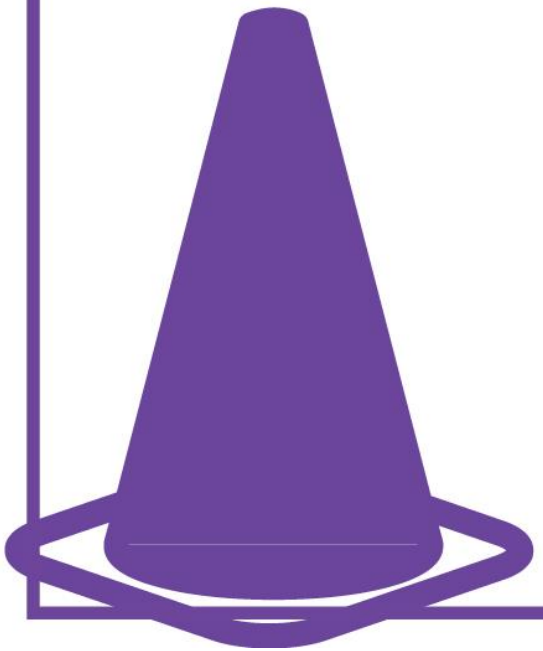
Arm Scissor Chops

[Video Link]



Toe Tap Hops

[Video Link]



Down-Up Rep Chart

Partner A completes round 1 while Partner B rests.
Then, Partner B completes round 1 while Partner A rests.
As soon as you both complete round 1, move to round 2.
Continue until you both complete all 9 rounds.

Round 1: **10 Reps**	Marching Jacks [Video Link]
Round 2: **8 Reps**	Calf Raises [Video Link]
Round 3: **6 Reps**	Climber Taps [Video Link]
Round 4: **4 Reps**	Stacked Push-Ups [Video Link]
Round 5: **2 Reps**	Burpees with a Push-Up [Video Link]
Round 6: **4 Reps**	Stacked Push-Ups [Video Link]
Round 7: **6 Reps**	Climber Taps [Video Link]
Round 8: **8 Reps**	Calf Raises [Video Link]
Round 9: **10 Reps**	Marching Jacks [Video Link]

Rep (noun): A single exercise performance within a set of exercise repetitions.

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Down-Up Rep Chart

With a partner, work together to create a custom Down-Up Rep Chart.

Names: _____

Round 1: **10 Reps**	_____
Round 2: **8 Reps**	_____
Round 3: **6 Reps**	_____
Round 4: **4 Reps**	_____
Round 5: **2 Reps**	_____
Round 6: **4 Reps**	_____
Round 7: **6 Reps**	_____
Round 8: **8 Reps**	_____
Round 9: **10 Reps**	_____

Rep (noun): A single exercise performance within a set of exercise repetitions.

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HEART RATE ZONE CHART

	HR Zone BPM	Benefits	Perceived Exertion	Recommended For:
PERFORMANCE	90 to 100% **180 – 200**	Max performance & speed	Exhausting for breathing and muscles	Those training for specific vigorous performances
HEART HEALTH	70 to 90% **140 – 180**	Aerobic fitness & performance capacity	Some muscle fatigue, heavy breathing, sweating	Everyone: Moderately long activity
	60 to 70% **120 – 140**	Basic endurance and fat burning	Light muscle exertion, easy breathing, light sweating	Everyone: Longer, more frequent activity
ACTIVE	50 to 60% **100 – 120**	Overall health, warm-up, and cool-down	Easy for breathing and muscles	Everyone: Active warm-up & recovery

Adapted from Polar Lessons for Life

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TOOLS FOR LEARNING
PLUG & PLAY FITNESS

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PERCEIVED EXERTION CARD

RPE Scale	Rate of Perceived Exertion
10	**Max Effort Activity** It feels almost impossible to keep going. I'm completely out of breath and can't talk. I can't keep this up for long.
9	**Very Vigorous Activity** It's really hard to maintain this intensity. I can barely breathe and can only speak a few words at one time.
7-8	**Vigorous Activity** This is almost uncomfortable. My breathing is very heavy, but can speak a full sentence.
4-6	**Moderate Activity** My breathing is heavy, but can hold a short conversation. I'm not uncomfortable, but I can feel the challenge in the activity.
2-3	**Light Activity** I can maintain this activity for hours. It's easy to breathe and carry on a conversation.
1	**Very Light Activity** I don't have to try hard at all, but I'm not watching TV or taking a nap.

Music Moves Routine Worksheet

With a partner, use the example provided to create a custom Music Moves routine.

Names: _____

Sample Routine	Song: Ghostbusters Starting Exercise: Jumping Jacks Lyrical Cue / Exercise: “Ghostbusters!” / 1 Burpee
Custom Routine 1	Song: _____ Starting Exercise: _____ Lyrical Cue / Exercise: _____ / _____
Custom Routine 2	Song: _____ Starting Exercise: _____ Lyrical Cue / Exercise: _____ / _____
Custom Routine 3	Song: _____ Starting Exercise: _____ Lyrical Cue / Exercise: _____ / _____

Move (noun): A specific maneuver or choreographed motion used in a dance, game, or sport.

FITNESSGRAM™

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ACADEMIC LANGUAGE QUIZ

1 **The energy pathway which utilizes oxygen as a chemical catalyst and fuels sustained physical activity.**

e. Energy Systems
f. Anaerobic Glycolysis
g. Aerobic Glycolysis
h. Aerobic Dance

2 **Extreme tiredness, generally resulting from physical or mental exertion.**

a. Fatigue
b. Sleep Deprivation
c. Insomnia
d. Restfulness

3 **A range of heart beats per minute identified because of specific health benefits.**

a. Heart Rate Monitor
b. Tabata Zone
c. HRM Device
d. Heart Rate Zone

4 **The energy pathway through which glucose is transformed without the use of oxygen.**

a. Energy Systems
b. Anaerobic Glycolysis
c. Aerobic Glycolysis
d. Aerobic Dance

5 **A skillful or efficient way of performing an activity.**

a. Form
b. Technique
c. Cues
d. Control

6 **A way of life that values physical activity as an essential part of living.**

a. Active Lifestyle
b. Sedentary Time
c. Community Health
d. Activity Breaks

7 **The correct or appropriate relative positions.**

a. Posture
b. Cues
c. Form
d. Alignment

8 **How hard an individual feels her/his body is working during a bout of exercise.**

a. Exhaustion
b. Muscle Soreness
c. Fatigue
d. Perceived Exertion

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FITNESS KNOWLEDGE EXIT SLIP

Name: _____

Answer each question below.

- **DOK 1:** What is perceived exertion?

- **DOK 2:** What do you know about the different levels of perceived exertion? (RPE Scale 1-10)

- **DOK 3:** How is perceived exertion related to exercise intensity?

- **DOK 4:** Using information from the Perceived Exertion Chart, analyze your effort and intensity during Partner Rep Burn-Out.

(Write this answer on the back of this sheet.)

- -

TOOLS FOR LEARNING
PLUG & PLAY FITNESS

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HIGH SCHOOL

HEART RATE ZONE CHART

Name: _____

Answer each question below.

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HIGH SCHOOL

FITNESS KNOWLEDGE EXIT SLIP

Name: _____

Answer each question below.

- **DOK 1:** What would you include on a list about aerobic glycolysis? What about a list for anaerobic glycolysis?

- **DOK 2:** How would you compare and/or contrast aerobic glycolysis with anaerobic glycolysis?

- **DOK 3:** How are these energy systems related to your personal fitness?

(Write this answer on the back of this sheet.)

- -

TOOLS FOR LEARNING
PLUG & PLAY FITNESS

HZ
HIGH SCHOOL

HEART RATE ZONE CHART

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(Write this answer on the back of this sheet.)

TOOLS FOR LEARNING
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HIGH SCHOOL

FITNESS KNOWLEDGE EXIT SLIP

Name: _____

Answer each question below.

- **DOK 1:** What would you include on a list about perceived exertion?

- **DOK 2:** How would you summarize the different levels listed on the Rate of Perceived Exertion Scale?

- **DOK 3:** How would you adapt a station that you completed today to change the intensity of the activity, and therefore your perceived exertion?

(Write this answer on the back of this sheet.)

- -

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HIGH SCHOOL

HEART RATE ZONE CHART

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FITNESS KNOWLEDGE EXIT SLIP

Name: ____

Answer each question below.

- **DOK 1:** How would you describe target heart rate?
- **DOK 2:** How is your target heart rate affected by your fitness goals?
- **DOK 3:** How would you adapt a Down-Up Rep Chart based on different fitness goals (e.g., weight loss vs athletic performance)?

(Write this answer on the back of this sheet.)

- -

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TOOLS FOR LEARNING
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HIGH SCHOOL

FITNESS KNOWLEDGE EXIT SLIP

Name: ____

Answer each question below.

- **DOK 1:** How can you recognize a physically active lifestyle?

- **DOK 2:** How would you apply a physical activity break within a physically active lifestyle?

- **DOK 3:** How is routine physical activity related to your productivity? Give specific examples.

- **DOK 4:** Create a list of strengths and weaknesses related to the physical activity levels of your daily personal routine. Identify one area of weakness and a strategy for personal improvement in this area.

(Write this answer on the back of this sheet.)

- -

TOOLS FOR LEARNING
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HIGH SCHOOL

HEART RATE ZONE CHART

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FITNESS KNOWLEDGE EXIT SLIP

Name: ______________________________________

Answer each question below.

- **DOK 1:** What is a heart rate monitor?

- **DOK 2:** How could you apply heart rate monitor technology in your personal fitness plan?

- **DOK 3:** What facts would you select to support the use of a heart rate monitor for personal fitness? Can you elaborate on why you chose those facts?

(Write this answer on the back of this sheet.)

- -

TOOLS FOR LEARNING
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HIGH SCHOOL

HEART RATE ZONE CHART

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FITNESS KNOWLEDGE EXIT SLIP

Name: ____

Answer each question below.

- **DOK 1:** What would you include on a list about the benefits of an active lifestyle?

- **DOK 2:** How can an active lifestyle affect a person's social life?

- **DOK 3:** How is an active lifestyle related to a person's social and emotional well-being?

(Write this answer on the back of this sheet.)

- -

TOOLS FOR LEARNING
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FITNESS KNOWLEDGE EXIT SLIP

Name: ______________________________________

Answer each question below.

- **DOK 1:** What would you include on a list about anaerobic glycolysis?

- **DOK 2:** What do you know about anaerobic glycolysis and fatigue?

- **DOK 3:** How would you adapt this activity to shift energy systems from anaerobic glycolysis to aerobic glycolysis?

(Write this answer on the back of this sheet.)

- -

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HEART RATE ZONE CHART

Name: ______________________________________

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FITNESS KNOWLEDGE EXIT SLIP

Name: ____

Answer each question below.

- **DOK 1:** How would you perform a set of jumping jacks to illustrate the different levels of the Rate of Perceived Exertion Scale?

- **DOK 2:** How would you compare and/or contrast the various levels of the RPE Scale with one another?

- **DOK 3:** How would you modify this activity if your goal was maintaining your basic aerobic and muscular endurance? How would you modify it if your goal was improving aerobic fitness and performance capacity? Provide reasoning for your modifications.

(Write this answer on the back of this sheet.)

- -

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(Write this answer on the back of this sheet.)

Teaching Dates of Module:	School Year:

General Comments / Notes for Planning Next Year's Module

- ✓ Comment 1
- ✓ Comment 2
- ✓ Comment 3…

Self-Reflection Across Danielson's Four Domains of Teaching

Domain 1: Planning & Preparation

1a: Demonstrating Knowledge of Content/ Pedagogy	1d: Demonstrating Knowledge of Resources
1b: Demonstrating Knowledge of Students	1e: Designing Coherent Instruction
1c: Selecting Instructional Outcomes	1f: Designing Student Assessments

- ✓ Reflection 1
- ✓ Reflection 2
- ✓ Reflection 3…

Domain 2: Classroom Environment

2a: Evidence of Respect and Rapport	2d: Managing Student Behavior
2b: Establishing a Culture for Learning	2e: Organizing Physical Space
2c: Managing Classroom Procedures	

- ✓ Reflection 1
- ✓ Reflection 2
- ✓ Reflection 3…

Domain 3: Instruction

3a: Communicating with Students	3d: Using Assessment in Instruction
3b: Using Questioning and Discussion Techniques	3e: Demonstrating Flexibility and Responsiveness
3c: Engaging Students in Learning	

- ✓ Reflection 1
- ✓ Reflection 2
- ✓ Reflection 3…

Domain 4: Professional Responsibilities

4a: Reflecting on Teaching	4d: Participating in a Professional Community
4b: Maintaining Accurate Records	4e: Growing and Developing Professionally
4c: Communicating with Families	4f: Showing Professionalism

- ✓ Reflection 1
- ✓ Reflection 2
- ✓ Reflection 3…

Self-Rating with Rationale

Choose One:
Innovative (4); Proficient (3); Basic (2); Unsatisfactory (1)

Provide rationale:

- ✓ Evidence 1
- ✓ Evidence 2
- ✓ Evidence 3