

LESSON 4: LANE LAP COMPARISONS

Grade-Level Outcomes

Primary Outcomes

Fitness knowledge: Calculates target heart rate and applies that information to personal fitness plan. (S3.H10.L1)

Fitness knowledge: Adjusts pacing to keep heart rate in target zone, using available technology (e.g., pedometer, heart rate monitor), to self-monitor aerobic intensity. (S3.H10.L2)

Fitness activities: Demonstrates competency in 1 or more specialized skills in health-related fitness activities. (S1.H3.L1)

Embedded Outcome

Movement concepts, principles & knowledge: Uses movement concepts and principles (e.g., force, motion, rotation) to analyze and improve performance of self and/or others for a self-selected skill. (S2.H2.L1)

Lesson Objectives

The learner will:

- perform the tasks at a moderate-to-vigorous physical activity (MVPA) level.
- track his heart rate during each task and modify his intensity level as needed to stay in his or her target heart rate (THR) zone.

Equipment and Materials

- Pedometers (1 per student)
- Jump ropes (6 to 8)
- Steppers (6 to 8)
- Depending on space, mats for curl-ups
- Cones
- Stopwatches
- Task sheets

Introduction

You have been working on staying in your target heart rate zone while walking. You have also been seeing how many steps you can accumulate during class. Thinking about the 10,000-step goal, how many more steps do you think you could get if you parked at the far end of the parking lot instead of right in front of the store? Today, we will see how many more steps you get depending on what lane you walk in on the track. You will still be checking your heart rate to stay within your moderate target heart rate zone. Why do you want to work at a moderate pace? What are other tools you could use to check if you are being moderately physically active?

Instructional Task: Warm-Up Stations and THR Review

■ PRACTICE TASK

Students put on their pedometers and get into groups of five or six. Direct groups to a one of the six stations. Each station is 1 minute in length. When the music stops, students find their pulse, count for 15 seconds, and record their heart rates on their sheets after multiplying by 4. Students record the number of steps registered on their pedometers and rotate to the next station.

Stations can include the following activities (or create your own):

1. Push-ups and/or planks
2. Aerobic steps (step-ups on steppers)
3. Power walking
4. Lunges, wall sits, or body-weight squats
5. Curl-ups or V-sits
6. Jumping rope or ski jumps

Refinements

- Check the form for each activity (e.g., flat backs for push-ups and planks, walking form for power walk, safe knees [90 degrees] for lunges, wall sits, and squats).
- Choose the percentage of the THR zone for students to stay within.

Guiding questions for students:

- Are you learning what it feels like to be working at a moderate or vigorous level according to your heart rate?
- At which stations were you in the target heart rate zone? What station was your heart rate the highest? The lowest?
- How could you adjust if you were not in the zone (too low, too high)?
- How could you incorporate a quick warm-up like this at home?
- How many steps did you accumulate during the warm-up?
- What type of health-related fitness were you working on during this activity?

Student Choices/Differentiation

- Students may choose to work at a moderate or vigorous level.
- Students may perform modified push-ups or wall push-ups.
- On ground marching, or high-knee step-ups, or step-ups onto a higher step, and so on, students may increase or decrease the pace.
- Students may perform medicine ball twists or dead bugs.

What to Look For

- Students are in their target heart rate zones.
- Students can modify their intensity level to stay in their target heart rate zones.
- Students are performing at the stations continuously for 1 minute with correct form.

Instructional Task: Partner Lap Comparisons by Lane

■ PRACTICE TASK

Students jog or power walk out to the track. Today, students will see the step-count differences of the track lanes. With a partner, students walk laps in the different lanes to see how many steps they take in each one. Eight lanes are standard on a track. Four sets of partners begin in lanes 1 and 2, 3 and 4, 5 and 6, and 7 and 8 (i.e., one partner walks the odd lanes and the other the even). Students should walk at a pace that keeps them in their moderate heart rate zones. Students rotate lanes after each lap—if they started in 1 and 2, they move to 3 and 4, and so on. Lanes 7 and 8 would move to 1 and 2. Have cones set up with staggered starts to provide adequate spacing or stagger the start. Faster walkers should move to the front to prevent congestion. Students measure heart rate throughout to see if they are staying in their zones.

Refinements

- Vary the length of time students take their heart rates (10, 15, 30 seconds).
- Watch for consistency in heart rate over the laps—challenge students to keep their heart rates as close to the same as possible for all four laps.
- Reinforce proper walking form.

Guiding questions for students:

- How different were step totals from one lane to another?
- Were you able to stay within your target heart rate goal? Why or why not?
- What can you change to stay in the zone if you were not?

EMBEDDED OUTCOME: S2.H2.1.1 Use questioning to apply movement concepts to walking technique:

- How are you feeling about your walking technique?
 - Does pacing affect your technique?
 - Do you feel you have to concentrate more on technique when walking at a faster (more vigorous) pace?
 - How might technique change as pace changes?
 - Do you notice any changes in your stride length or frequency?
 - How can technique play a role in injury prevention?
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Student Choices/Differentiation

- Students may choose to work at a moderate or vigorous level
- Student may jog or run the laps.
- Students may use walking poles or sticks.

What to Look For

- Students are using good walking technique.
- Students are setting a goal and staying in their target heart rate zones.

Instructional Task: Cool-Down Stretches

■ PRACTICE TASK

Have students put their pedometers away and come together as a class for a flexibility cool-down routine. Students hold each stretch for 15 to 20 seconds on both sides of the body.

- Quad stretch
- Calf stretch
- Achilles stretch
- Hamstring stretch
- Glute stretch
- Shoulder stretch
- Chest stretch
- Triceps stretch

Students record their heart rates at the conclusion of the stretching.

Refinement

Ask students to breathe through their stretches, deep inhales and exhales, pushing a little further each time while staying in proper alignment.

Guiding questions for students:

- During your flexibility cool-down, what did your heart rate do?
- Why are you stretching after this walking activity?

Student Choices/Differentiation

Students may stretch on their own or with a partner.

What to Look For

- Students are performing the stretches with correct form.
- Students are holding the stretches and not bouncing.

Formal and Informal Assessments

Students' ability to measure heart rate

Closure

- How much moderate to vigorous physical activity did you get during class today?
- How much more do you need to do outside of class to meet the daily recommendations?
- How many total steps did you take?
- What can you do to meet the 10,000-step guideline?
- From your homework, what examples did you find of places for physical activity in the community?
- Tomorrow you will review your daily step and physical activity totals for the week and set some goals.

Reflection

- Were students able to take accurate heart rate measures consistently?
- Were they able to gauge their MVPA levels (e.g., what a moderate pace in their moderate target heart rate zone feels like)?
- Did students maintain correct walking form regardless of pace?

Homework

- Reflect on the week's walking activities. What can you do at home to increase your daily steps and your moderate to vigorous physical activity levels?
- Where are some places you would like to walk?
- What are the barriers you might face related to walking outside of school?
- How might you remediate these barriers?
- How might tools such as pedometers, heart rate monitors, and other physical activity monitors or apps help you manage your daily physical activity?

Resources

Internet keyword search: "walking to relieve back pain," "walking technique"