S3 H10 GLO 9-12
OKLAHOMA ACADEMIC STANDARDS: Physical Education
Source: http://www.mrpk.org/Portals/11/usersdata/Physical%20Education/target%20heart%20rate%20wkst.pdf

<table>
<tr><td><u>Objectives/ Student Targets</u></td><td rowspan="4"><u>Equipment & Technology Needed</u>:
Heart Rate Monitors per student. Torso strap or wrist sensor.
Can sync with iPad and project on wall if wanted.
Cones
Worksheets per student
Clock</td></tr>
<tr><td><u>Cognitive:</u> Students will be able to calculate their target heart rate zone.</td></tr>
<tr><td><u>Affective:</u> Students will be respectful of others and understand the differences between themselves and others.</td></tr>
<tr><td><u>Psychomotor:</u> Students will participate in activities to raise and lower heart rate.</td></tr>
<tr><td colspan="2">Academic Vocabulary: Resting Heart Rate (RHR), Target Heart Rate (THR), Heart Rate Zone (HRZ), heart rate monitor, radial artery, carotid artery</td></tr>
<tr><td><u>Introduction / Anticipatory Set:</u>
Have enough heart rate monitors for the class set out at the front for the students to see when they come in to class. Let them know they will be using them today to keep track of their heart rate.
- What happens to our heart rate as we exercise? (increases)
- Why? (Because all of our muscles need <u>oxygen</u> for energy when we exercise. Oxygen is carried on <u>red blood cells</u>. Our heart needs to pump more blood to all of our muscles during exercise, therefore making it work harder.)
- How many of you have used heart rate monitors before?
- These specific ones? (If there is a student(s) that has used them before, they can help other students get familiarized with them as well.)
Tell the students you will help all of them with the monitors and we will all become comfortable with them by the end of the class.</td><td rowspan="2"><u>Classroom Layout:</u>
A gym or an open space
Teacher must walk around throughout lesson</td></tr>
<tr><td><u>Instant Activity:</u>
Before we can do anything else, we must find our resting heart rate. The BEST time to find your resting heart rate is in bed right when you wake up. We of course can not do this at the moment so we are all going to find a comfortable sitting position and relax as much as possible.
<u>Step one:</u>
Find a clock or a stopwatch with a second hand.
<u>Step two:</u>
Put your index and middle fingers together out straight. Hold the other three down.
<u>Step three:</u>
Find your pulse. You can find it either on your radial artery on your wrist…</td></tr>
</table>

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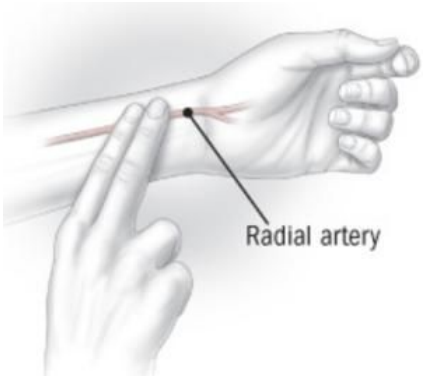

Or on your carotid artery on your neck under the jawline...

Students may need to feel around before they can locate the pulse. Different people will find it better in either place.

Step four:

After you have located the beat, we need to count how many beats happen within 60 seconds. For a shortcut you can count the number of beats in 10 seconds and then multiply that number by 6 (10 beats per second x 6 = resting heart rate of 60). This is where you use the clock or stopwatch.

This may be easier if the students grab a partner. One partner will count their beats while the other student keeps track of time. Then switch.

Have the students write their resting heart rate on a piece of paper.

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Lesson Focus:

I. Lesson Procedures - Teaching the skill or concept activities

Next we will find our Target Heart Rate Zone. This will require us to find our Maximum Heart Rate as well. Hand out a worksheet with the following information on it:

Here is how to calculate your target heart rate zone…

1. First of all, you need the following data:

- Maximum Heart Rate—(220 – your age = MHR)
  My MHR = _____

- Resting Heart Rate—(count pulse at rest for 1 minute)
  My RHR = _____

2. Enter the above data in the following two formulas and solve. The formulas represent the lower (60%) and upper (85%) limits of your target heart rate range.

(60%)—_____ - _____ = _____ x .6 = _____ + _____ = _____
MHR RHR RHR LOWER LIMIT

(85%)—_____ - _____ = _____ x .85 = _____ + _____ = _____
MHR RHR RHR UPPER LIMIT

3. Enter your target heart rate:
   My target heart rate is:
   _____ to _____
   lower limit upper limit

We had already calculated the resting heart rate and the worksheet tells the students how to find their maximum heart rate (220 - age).
Students may need to have a calculator or use their phones to solve the formulas.
Why is knowing your target heart rate zone important? (2 main reasons: safety and success. Safety because if we push our bodies past maximal level, we are at risk for dehydration, dizziness, burnout,

Teaching Cues:
Keep going
Speed up
Take a break
Look at your watch

Modifications:
If you do not have watches or straps, students can check their heart rates using their carotid and radial arteries after each round.
If you do not have enough watches or straps, have them switch with another student at the halfway point.

chronic pain, and more. If we pace ourselves and stay within limits, we are more likely to reach or goals.)

II. Lesson Instructional Activities:

*Heart rate monitors would be best for this portion of the lesson. If you do not have heart rate monitors, students could stop periodically and check pulse at their arteries. Tracking what their heart rate is each time.

Pass out the heart rate monitors. If they are the strap variation, have the students go to the locker room or restroom and put them around their torso at sports bra level. It helps if you put a little water where the sensor is on the strap. Sync with the appropriate watch (or ipad if displaying heart rates on projector).
If you are using the wrist sensor variation, pass out watches to the students. Keep track of which watch goes where.
Once all students have a watch/strap and/or are ready, tell the students they will be participating in a workout to see if they can stay within their target heart rate zone. All students will be different.

Have the students jog 5 laps around the gym or open space to get warmed up. Have the workout written on a poster or dry erase board for all the students to see. Make sure the students know they will all be going at different paces because everyone has a different zone. We are not going to judge another student on whether they are going slower or faster than we are.
Make sure students know how to do a burpee, a lunge, and a progressive. You may need to demonstrate or find a student who can demonstrate.

Work out
5 laps (around gym or in open space)
10 burpees
Lunges from cone to cone (10 yards)
1 progressive (on basketball court or in open space using cones) (a progressive is a suicide with a nice name)

_____
4 laps
8 burpees
Lunges from cone to cone

1 progressive

_____

3 laps
6 burpees
Lunges from cone to cone
1 progressive

_____

2 laps
4 burpees
Lunges from cone to cone
1 progressive

_____

1 lap
2 burpees
Lunges from cone to cone
1 progressive

The purpose of this workout is to stay within the zone. Not too low and not too high. What should you do if you are not reaching your zone? Run faster, take no breaks, etc. What should you do if you are too high? Take a few seconds to rest until your heart rate lowers, walk a lap instead of running, etc.

After the workout, students need to wipe down watches/sensors and turn them back in.

Assessment:
Walk around the gym or open area and constantly be checking on students. Ask where their heart rate is. Give them motivation to pick it up. Tell them to slow down and lower their heart rate.
Are they giving the max amount of effort needed? Are they all participating? Do they all have a good attitude?
Also, have them turn in their worksheets with the formulas in to you.

Closure:
Did we all stay within our heart rate zone? Was it hard to stay within the zone?
By raising your hand, who can tell me the importance of the zone?
Who can tell me where the carotid artery is? The radial artery?
Encourage your students to check their resting heart rate often. The lower it is the better!

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