**What Is a Pacer Test in Middle School PE?**

**by Marie Anderson**

 Aerobic fitness is one aspect of a healthy lifestyle.

The PACER Test, or Progressive Aerobic Cardiovascular Endurance Run, is an aerobic capacity test used by Fitnessgram. According to the Fitnessgram instructions, it is a 20-meter shuttle run, where students run back and forth as many times as they can between two markers, using an audio CD to guide their pace. The test is one way that middle school physical educators can determine the aerobic fitness of students.

**What Is Fitnessgram?**

The Fitnessgram is a series of tests developed by the Cooper Institute and is in partnership with the National Football League's Play 60 movement. According to the official website, Fitnessgram "measures three components of health-related physical fitness that have been identified as important to overall health and function: aerobic capacity, body composition and muscular strength, endurance and flexibility." States such as Texas, Georgia and Delaware use the program and accompanying software to test and give fitness-related feedback and suggestions to students in grades 3 through 12.

**How Does the PACER Test Work?**

To administer a test in a middle school, students are lined up about 40 to 60 inches apart. They run to a marker 20 meters away, wait for a signal from an audio CD and then run back. As students progress in the test, the rest time at the markers becomes shorter, thus increasing the difficulty. A student who does not reach the cone by the time the signal sounds is given another chance to catch up to the pace, but if he misses the mark twice in a row, his test is over. Students are given a score based on how many laps they complete. The minimum standard for a 12-year old boy is 32, and for a 13- or 14-year-old boy, it is 41. For girls, the minimum for ages 12 through 15 is 23. The script reads: The FitnessGram™ Pacer Test is a multistage aerobic capacity test that progressively gets more difficult as it continues. The 20 meter pacer test will begin in 30 seconds. Line up at the start. The running speed starts slowly, but gets faster each minute after you hear this signal. [beep] A single lap should be completed each time you hear this sound. [ding] Remember to run in a straight line, and run as long as possible. The time between recorded beeps decrease each minute (level) requiring an increase in pace. The subjects continue until they are unable to keep pace with the beeps. There are a total of 21 levels, which would take approximately 21 minutes to complete. The test begins with the word start – On your mark, get ready, start.

**What Equipment Is Needed?**

To set up the PACER test, test administrators need a tape measure, markers and a stereo with the Fitnessgram CD. They measure off an area that is 20 meters long and use some sort of marker, such as a flag or cone, at each end. The stereo needs to be loud enough so that all participants can hear the signal, alerting them when they are to turn and run in the other direction. Clipboards, class rosters and pencils are helpful for recording the scores.

**What Does It Test?**

The PACER test is one way to determine aerobic capacity, which, according to the website HealthyChildren.org, is the body's ability to effectively use oxygen. Those who are more aerobically fit can sustain exercise for a longer time period than those who are not as fit. The Mayo Clinic states that improving aerobic fitness is part of a healthy lifestyle and important for maintaining a healthy weight, reducing the risk of heart disease, diabetes, high-blood pressure and even cancer. Middle school students and parents, along with their doctors, can use the results of the PACER test to help determine whether lifestyle changes may be needed.

**reliability:** Reliability would depend on how strictly the test is run, and the practice allowed for the subjects. Several practice trials would be ideal.

**advantages**: Large groups can perform this test all at once for minimal costs. Also, the test continues to maximum effort unlike many other tests of endurance capacity. If there is not enough room to conduct the 20m test, there is a 15m version. If required you can convert the score for the 15m to 20m versions.

**disadvantages:** Practice and motivation levels can influence the score attained, and the scoring can be subjective. As the test is usually conducted outside, the environmental conditions can also affect the results.

**What is a Pacer Test in MS PE?**

1. Circle and write down all unfamiliar words in the selection

2. Define those words using context clues in the reading.

3. Underline 5 key facts or main ideas from the reading; write them on your paper.

4. What is the Pacer Test and exactly how does it work/how is it given? Site evidence

5. What equipment is needed to conduct the test? Justify your answer

6. What does it test and how reliable are the results of the Pacer test? Site evidence

7. What are the advantages and disadvantages of the Pacer Test? Justify your answer

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