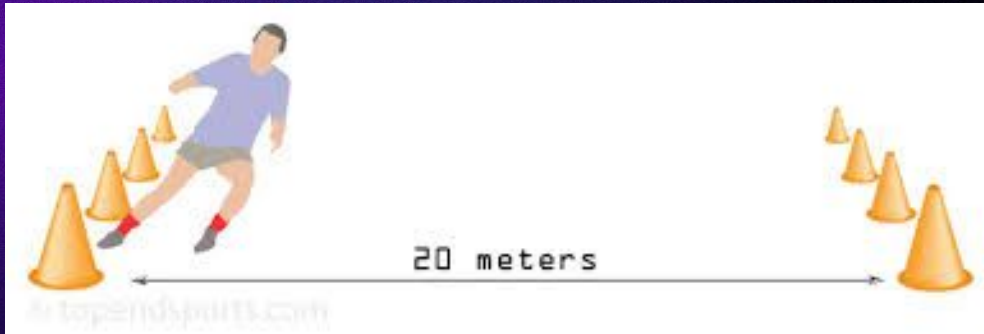




# Fitnessgram



# Objectives

- Accurately demonstrate and facilitate each required test: PACER, cadence curl-ups, cadence push-ups, back-saver sit-and-reach, and trunk lift.
- Implement age-appropriate strategies for explaining test procedures to students.
- Utilize practical tools and templates for efficient data collection and reporting.
- Foster a positive testing environment that promotes student effort, confidence, and lifelong wellness habits.
- Understand the significance of aggregate data reporting and student privacy protections.

# PACER

## **Test Objective:**

The objective is to run as long as possible with continuous movement back and forth across a 20-meter space at a specified pace that gets faster each passing minute.

## **Test Instructions:**

- ❑ Mark the 20-meter (21-yard, 32-inch) course with marker cones to divide lanes and use a tape or chalk line at each end.
- ❑ Before test day, allow students to listen to several minutes of the tape so that they know what to expect. Students should then be allowed at least two practice sessions.
- ❑ Allow students to select a partner. Have students who are being tested line up behind the start line.
- ❑ Each student being tested should run across the 20-meter distance and touch the line with a foot by the time the beep sounds. The student should take full weight on the foot that is touching the line. At the sound of the beep, the student turns around and runs back to the other end. If some students get to the line before the beep, they must wait for the beep before running the other direction. Students continue in this manner until they fail to reach the line before the beep for the second time

# PACER

**FITNESSGRAM**  
The Cooper Institute®

## **PACER** Progressive Aerobic Cardiovascular Endurance Run



### **Instructions:**

1. Start running when instructed from the PACER Cadence
2. Stay in your lane
3. Both feet must completely cross line at the sound of the beep
4. Walking is allowed as long as you stay on pace
5. First miss, turn around where you are and try to get back on track
6. Second miss, move to side and continue walking until test is complete
7. Record number of completed laps

PACER Remixes

PACER Protocol Video

# PACER

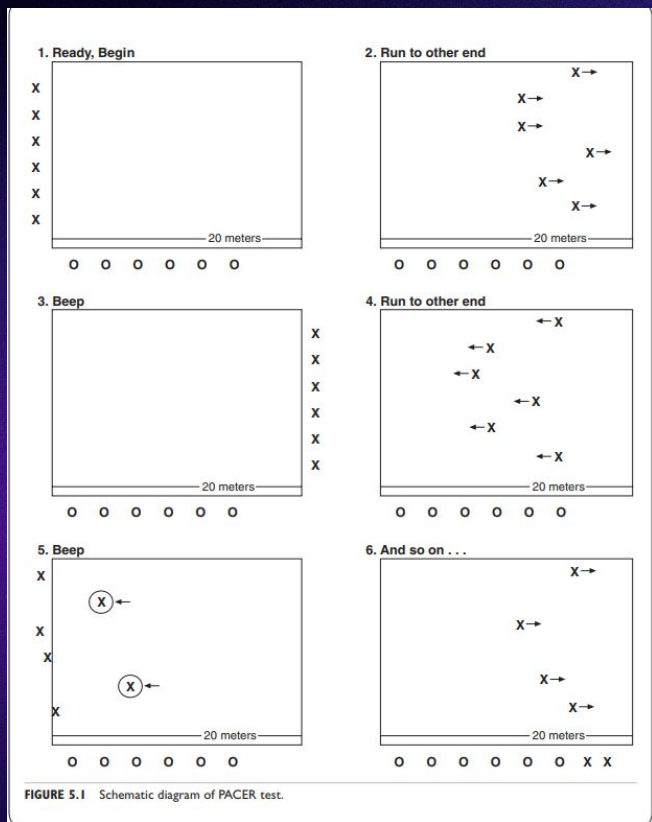


FIGURE 5.1 Schematic diagram of PACER test.

**FITNESSGRAM PACER Test - Sample Individual Score Sheet-B**

Student Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

Stars for completed laps; Triangles for non-completed laps. Student's score would be 21.

☆	☆	☆	☆	☆	☆	☆	☆	☆
1	2	3	4	5	6	7	8	9
☆	☆	☆	☆	☆	△	☆	☆	☆
10	11	12	13	14	15	16	17	18
☆	☆	☆	△					
19	20	21	22	23	24	25	26	27
28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45
46	47	48	49	50	51	52	53	54

# Push-Ups

## Test Objective:

To complete as many 90 degree push-ups as possible at a rhythmic pace (up to a maximum of 75).

## Test Instructions:

- ❑ Students should be paired; one performs the test while the other counts 90 degree push-ups and watches to see that the performer bends the elbows to 90 degrees with the upper arms parallel to the floor.
- ❑ The performer assumes the prone position on the mat with the hands under or slightly wider than the shoulders, the fingers stretched out, the legs straight and slightly apart, and the toes tucked under.
- ❑ The performer pushes up off of the mat with the arms until the arms are straight. The back should be kept in a straight line from head to toes throughout the test.
- ❑ The performer then lowers the body with the arms until the elbows bend at a 90 degree angle and the upper arms are parallel to the floor.
- ❑ This movement is repeated as many times as possible.

# Push-Ups

## Form Corrections

- ❖ Stopping to rest or not maintaining a rhythmic pace.
- ❖ Not achieving a 90 degree angle with the elbow.
- ❖ Not maintaining correct body position with a straight back.
- ❖ Not extending the arms fully.

## Scoring

- ❖ The score is the number of 90 degree push-ups performed. The first form break is counted as a push-up; the test ends on the second form break.

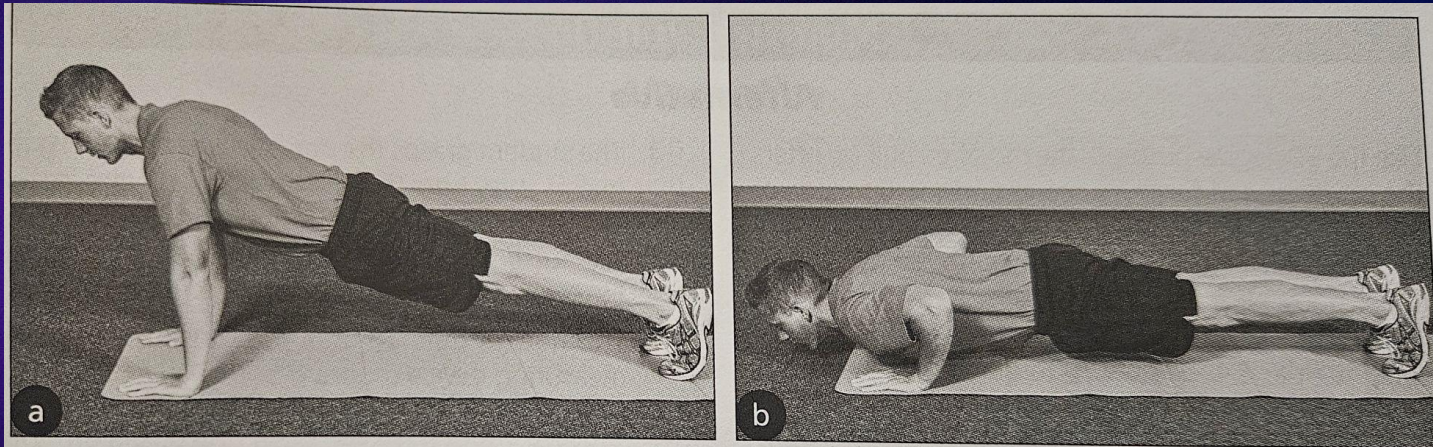
## Suggestions for Test Administration

- ❖ Males and Females follow the same protocol.
- ❖ Use a piece of pliable equipment, such as a short cone or large foam ball, that can be placed under the student's chest. The student must lower to the equipment in order for the 90 degree push-up to count.

# Push-Ups

[Push-Up Protocol Video](#)

[Push-Up Cadence](#)



**Figure 8.4** (a) Starting position for the 90 degree push-up test. (b) Student in the “down” (lowered) position for the 90 degree push-up test.

# Curl-Ups

## **Test Objective:**

The objective of this test is to complete as many curl-ups as possible (up to a maximum of 75) at a specified pace.

## **Equipment:**

- ❖ A mat marked with the distances of the curl-up strips (or)
- ❖ A measuring strip
- ❖ 3 inches for testing 5-to-9 year olds and 4.5 inches for older students
- ❖ Curl-Up Cadence

# Curl-Ups

## **Test Instructions:**

- ❑ Allow students to partner up in groups of two. Partner A will perform the curl-up while Partner B counts and watches for form errors.
- ❑ Partner A lies supine on the mat with knees bent at an angle of about 140 degrees, feet flat on the floor, legs slightly apart, arms straight and parallel to the trunk, and palms resting on the mat. The fingers are stretched out, and the head is in contact with the mat. Make sure that students extend their feet as far as possible from the buttocks while still allowing the feet to remain flat on the floor—the closer the feet are to the buttocks, the more difficult the movement.
- ❑ Partner B will ensure that the fingertips rest on the nearest edge of the curl-up distance by checking the location on a premarked mat or by placing the measuring strip on the mat under partner A's legs so that partner A's fingertips are on the nearest edge of the measuring strip.
- ❑ The test begins with the feet flat on the floor but only the heels must remain in contact with the mat during the test. Partner A curls up slowly, sliding the fingers across the measuring strip until they reach the other side. Partner A then curls back down until his or her head touches the mat.
- ❑ Partner A continues without pausing until he or she can no longer continue or has completed 75 curl-ups, or until the second form correction is made.

# Curl-Ups

## Form Corrections:

- ❑ The heels must remain in contact with the floor.
- ❑ The head must return to the mat on each repetition.
- ❑ Pauses and rest periods are not allowed; the movement should be continuous and in keep with the cadence.
- ❑ The fingertips must touch the far side of the measuring strip.

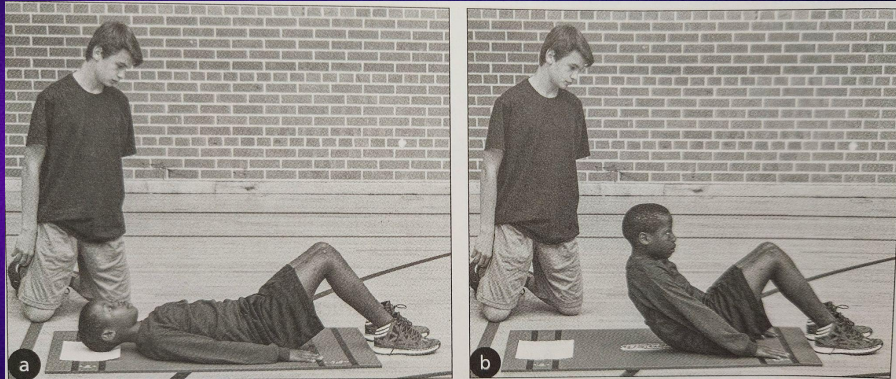
## Scoring:

The score is the number of curl-ups performed. A curl-up should be counted when the student's head returns to the mat. For ease of administration, the first form break counts as a curl-up; the test ends on the second form break.

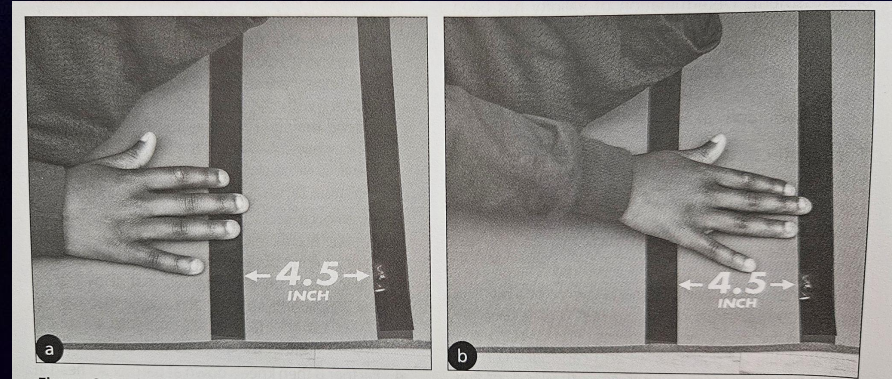
# Curl-Ups

Curl-Up Cadence

Curl-Up Protocol Video



**Figure 8.1** (a) Starting position for the curl-up test. (b) "Up" position in the curl-up test.



**Figure 8.2** (a) Close-up of fingertips sliding in the starting position. (b) Close-up of fingertips sliding in the ending position.

# Sit and Reach

## **Test Objective:**

The objective of this item is to reach the specified distance on the right and left sides of the body. The distance required to achieve the Healthy Fitness Zone is adjusted for age and sex.

## **Equipment:**

- ❑ Sit and Reach box.

## **Test Instructions:**

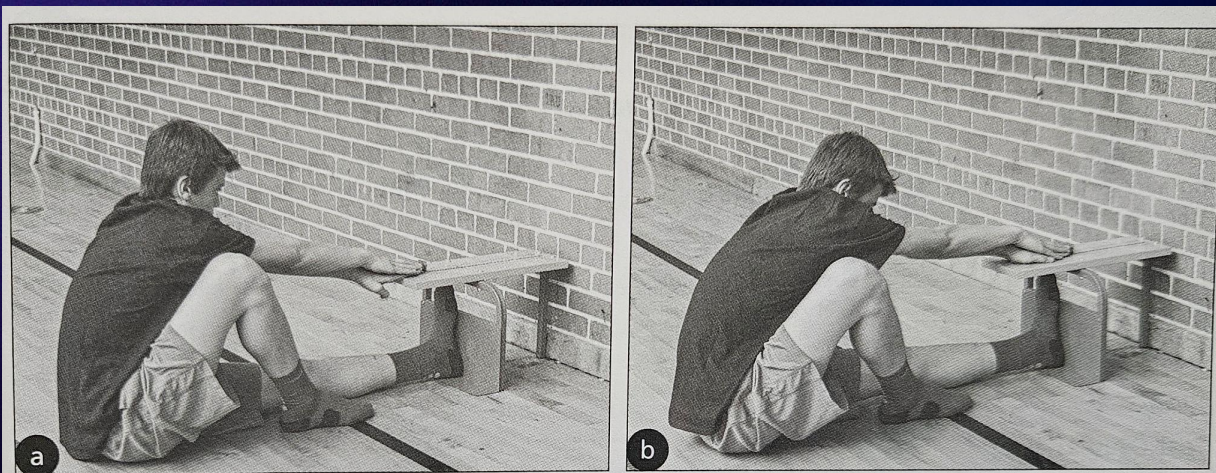
- ❑ The student removes his or her shoes and sits down at the box. One leg is fully extended with the foot flat against the face of the box. The other knee is bent with the sole of the foot flat on the floor. The instep of the that foot is placed in line with, and 2 to 3 inches to the side of, the straight knee. The arms are extended forward over the measuring scale with the hands placed one on top of the other.
- ❑ The student reaches forward along the scale with both hands(palms down) four times(5th edition), keeping the back straight and the head up, and holds the position of the fourth reach for at least one second. If necessary, the student may allow the bent knee to move to the side as the body moves forward, but the sole of the foot must remain on the floor.
- ❑ After one side has been measured, the student switches the position of the legs and repeats the process. Measurement of right and left sides may be made in any order, but both sides must be measured.

# Sit and Reach

## Scoring:

- ❑ Record the distance reach on each side to the nearest 0.5 inch, up to a maximum score of 12 inches.
- ❑ To be in the HFZ, the student should meet the standard on both the right and left sides.

## Sit and Reach Protocol Video



**Figure 8.7** (a) Starting position for measuring the left side. (b) Back-saver sit and reach stretch for the left side.

# Trunk Lift

[Trunk Lift Protocol Video](#)

## Test Objective:

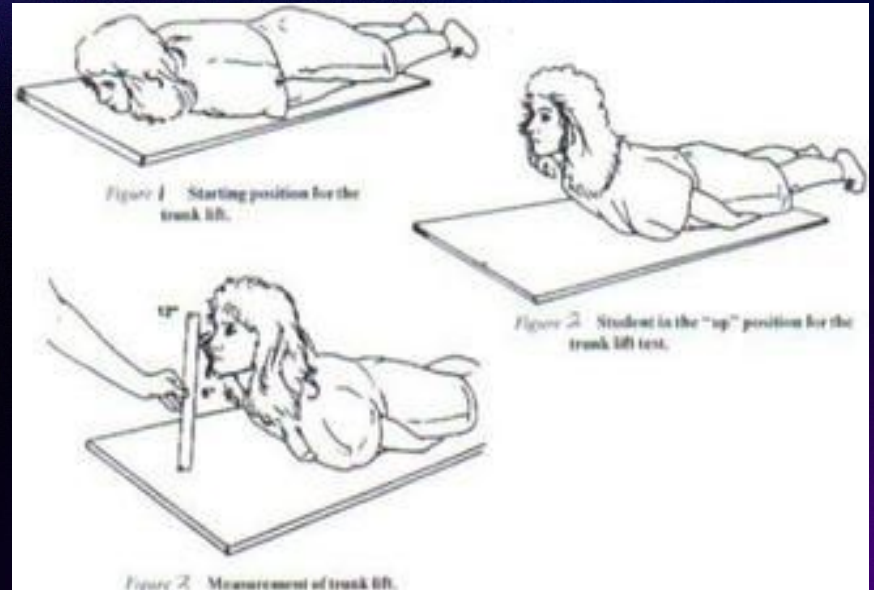
To lift the upper body off the floor using the muscles of the back and hold the position to allow for the measurement.

## Equipment:

- ❑ Yardstick or 15in ruler
- ❑ Gym Mat

## Test Instructions:

- ❑ The student lies on the mat in a prone position (face down). Toes are pointed and hands are placed under the thighs.
- ❑ Place a marker on the floor in line with the student's eyes. During the movement, the students focus should not move from the marker.
- ❑ The student lifts the upper body off the floor, in a very slow and controlled manner, to a maximum height of 12in. The position is held long enough to allow the tester to place the ruler on the floor in front of the student and determine the distance from the floor to the student's chin. Once the measurement has been made the student returns to the starting position in a controlled manner.



# Healthy Fitness Zones

**Table 10.3** FitnessGram Standards for the Healthy Fitness Zone—Girls

Age (yrs.)	AEROBIC CAPACITY VO <sub>2</sub> MAX (ML·KG <sup>-1</sup> ·MIN <sup>-1</sup> )									
	PACER, one-mile run, walk test			PERCENT BODY FAT				BODY MASS INDEX		
	NI—HRZ	NIZ	HFZ	VLZ	HFZ	NIZ	NI—HRZ	HFZ	NIZ	NI—HRZ
5	Completion of test (lap count and time standards not recommended)									
6	≤9.7	9.8–20.8	20.9–28.3	≥28.4	≤13.5	13.6–16.8	16.9–18.4	≥18.5		
7	≤9.8	9.9–20.8	20.9–28.3	≥28.4	≤13.4	13.5–17.2	17.3–19.1	≥19.2		
8	≤10.0	10.1–20.8	20.9–28.3	≥28.4	≤13.5	13.6–17.9	18.0–20.1	≥20.2		
9	≤10.4	10.5–20.8	20.9–28.3	≥28.4	≤13.6	13.7–18.6	18.7–21.1	≥21.2		
10	≤10.3	11.0–22.4	22.5–30.7	≥30.8	≤13.9	14.0–19.4	19.5–22.3	≥22.4		
11	≤11.0	11.6–24.3	24.4–32.9	≥33.0	≤14.2	14.3–20.3	20.4–23.5	≥23.6		
12	≤11.7	12.2–25.7	25.8–34.4	≥34.5	≤14.6	14.7–21.2	21.3–24.6	≥24.7		
13	≤12.0	12.7–26.7	26.8–35.4	≥35.5	≤15.1	15.2–22.1	22.2–25.7	≥25.8		
14	≤12.6	13.4–27.7	27.8–36.2	≥36.3	≤15.6	15.7–22.9	23.0–26.7	≥26.8		
15	≤13.6	14.0–28.5	28.6–36.7	≥36.8	≤16.1	16.2–23.6	23.7–27.6	≥27.7		
16	≤14.5	14.6–29.1	29.2–37.0	≥37.1	≤16.8	16.7–24.3	24.4–28.4	≥28.5		
17	≤15.7	15.3–29.7	29.8–37.3	≥37.4	≤17.0	17.1–24.8	24.9–29.2	≥29.3		
18	≤16.3	15.9–30.4	30.5–37.8	≥37.9	≤17.4	17.5–24.9	25.0–29.9	≥30.0		
≥17	≤15.3	15.4–28.5	28.6	≥28.6	≤16.4	16.5–21.3	21.4–28.5	≥28.6		

Age (yrs.)	Curly-up (no. completed)	Trunk lift (in.)	90° push-up (no. completed)	Modified pull-up (no. completed)	Flexed arm hang (sec.)	Back-saver sit and reach (in.)	Shoulder stretch <sup>a</sup>
5	≥2	6–12	≥3	≥2	≥9		Healthy Fitness Zone = touching fingertips together behind the back on both the right and left sides.
6	≥2	6–12	≥3	≥2	≥9		
7	≥4	6–12	≥4	≥3	≥9		
8	≥6	6–12	≥5	≥4	≥9		
9	≥9	6–12	≥6	≥4	≥9		
10	≥12	9–12	≥7	≥4	≥9		
11	≥15	9–12	≥7	≥4	≥6	≥10	
12	≥18	9–12	≥7	≥4	≥7	≥10	
13	≥18	9–12	≥7	≥4	≥8	≥10	
14	≥18	9–12	≥7	≥4	≥8	≥12	
15	≥18	9–12	≥7	≥4	≥8	≥12	
16	≥18	9–12	≥7	≥4	≥8	≥12	
17	≥18	9–12	≥7	≥4	≥8	≥12	
≥17	≥18	9–12	≥7	≥4	≥8	≥12	

<sup>a</sup>HFZ = Healthy Fitness Zone, NIZ = Needs Improvement Zone, NI—HRZ = Needs Improvement—Health Risk Zone, and VLZ = Very Lean Zone.

<sup>b</sup>Test is scored yes/no; must reach this distance on right and left sides to achieve the HFZ.

**Table 10.4** PACER Laps Associated With the Healthy Fitness Zone—Girls

Age (yrs.)	20-meter laps	15-meter laps
5–9	Completion of test (lap count and time standards not recommended)	
10	≥17	≥22
11	≥20	≥26
12	≥23	≥30
13	≥25	≥32
14	≥27	≥35
15	≥30	≥39
16	≥32	≥42
17	≥35	≥46
≥17	≥38	≥49

**Table 10.1** FitnessGram Standards for the Healthy Fitness Zone—Boys

Age (yrs.)	AEROBIC CAPACITY VO <sub>2</sub> MAX (ML·KG <sup>-1</sup> ·MIN <sup>-1</sup> )									
	PACER, one-mile run, walk test			PERCENT BODY FAT				BODY MASS INDEX		
	NI—HRZ	NIZ	HFZ	VLZ	HFZ	NIZ	NI—HRZ	HFZ	NIZ	NI—HRZ
5	Completion of test (lap count and time standards not recommended)									
6	≤8.8	8.9–18.8	18.9–25.9	≥27.0	≤13.8	13.9–16.8	16.9–18.0	≥18.1		
7	≤8.4	8.5–18.8	18.9–26.9	≥27.0	≤13.7	13.8–17.1	17.2–18.7	≥18.8		
8	≤8.2	8.3–18.8	18.9–26.9	≥27.0	≤13.7	13.8–17.6	17.7–19.5	≥19.6		
9	≤8.3	8.4–18.8	18.9–26.9	≥27.0	≤13.9	14.0–18.2	18.3–20.5	≥20.6		
10	≤8.6	8.7–20.6	20.7–30.0	≥30.1	≤14.1	14.2–18.9	19.0–21.5	≥21.6		
11	≤9.3	9.4–22.4	22.5–33.1	≥33.2	≤14.4	14.5–19.7	19.8–22.6	≥22.7		
12	≤9.7	9.7–22.4	22.5–33.1	≥33.2	≤14.8	14.9–20.5	20.6–23.8	≥23.7		
13	≤10.6	10.7–24.0	24.1	≥24.1	≤15.7	15.8–22.2	22.3–25.5	≥25.6		
14	≤10.6	10.7–24.0	24.1	≥24.1	≤15.7	15.8–22.2	22.3–25.5	≥25.6		
15	≤10.6	10.7–24.0	24.1	≥24.1	≤15.7	15.8–22.2	22.3–25.5	≥25.6		
16	≤11.0	11.1–24.3	24.4	≥24.4	≤16.4	16.5–23.1	23.2	≥23.2		
17	≤11.0	11.1–24.3	24.4	≥24.4	≤16.4	16.5–23.1	23.2	≥23.2		
18	≤11.0	11.1–24.3	24.4	≥24.4	≤16.4	16.5–23.1	23.2	≥23.2		
≥17	≤11.0	11.1–24.3	24.4	≥24.4	≤16.4	16.5–23.1	23.2	≥23.2		

Age (yrs.)	Curly-up (no. completed)	Trunk lift (in.)	90° push-up (no. completed)	Modified pull-up (no. completed)	Flexed arm hang (sec.)	Back-saver sit and reach (in.)	Shoulder stretch <sup>a</sup>
5	≥2	6–12	≥3	≥2	≥2	≥8	Healthy Fitness Zone = touching fingertips together behind the back on both the right and left sides.
6	≥2	6–12	≥3	≥2	≥2	≥8	
7	≥4	6–12	≥4	≥3	≥3	≥8	
8	≥6	6–12	≥5	≥4	≥3	≥8	
9	≥9	6–12	≥6	≥5	≥4	≥8	
10	≥12	9–12	≥7	≥5	≥4	≥8	
11	≥15	9–12	≥8	≥6	≥6	≥8	
12	≥18	9–12	≥10	≥7	≥7	≥8	
13	≥21	9–12	≥12	≥8	≥8	≥8	
14	≥24	9–12	≥14	≥9	≥15	≥8	
15	≥24	9–12	≥16	≥10	≥15	≥8	
16	≥24	9–12	≥18	≥12	≥15	≥8	
17	≥24	9–12	≥18	≥14	≥15	≥8	
≥17	≥24	9–12	≥18	≥14	≥15	≥8	

<sup>a</sup>HFZ = Healthy Fitness Zone, NIZ = Needs Improvement Zone, NI—HRZ = Needs Improvement—Health Risk Zone, and VLZ = Very Lean Zone.

<sup>b</sup>This test is scored yes/no, and the performer must reach this distance on both the right and left sides to achieve the HFZ.

**Table 10.2** PACER Laps Associated With the Healthy Fitness Zone—Boys

Age (yrs.)	20-meter laps	15-meter laps
5–9	Completion of test (lap count and time standards not recommended)	
10	≥17	≥22
11	≥20	≥26
12	≥23	≥30
13	≥29	≥38
14	≥36	≥47
15	≥42	≥55
16	≥47	≥61
17	≥50	≥65
≥17	≥54	≥70

Questions?

# Let's Chat!

- ❑ How does your school complete fitness testing?
- ❑ What works well?
- ❑ How do your students respond to fitness testing?
- ❑ Are there any changes you want to see within the county in regards to fitness testing?