

Fitness Testing

Aerobic Capacity

The Aerobic Capacity fitness area refers to the maximum rate that oxygen can be taken into and used by the body during exercise, which is reported as a VO2 max score. Aerobic Capacity is considered important because of the research that associates good aerobic capacity in adults with a reduction in many health problems.

- One-Mile Run
 - The One-Mile Run estimates aerobic capacity from running performance. Students are instructed to run a mile as fast as possible. Walking is permitted for students who cannot run the total distance. The time taken to complete the run is recorded in minutes and seconds. The equation used for estimating VO2 max for the One-Mile Run is provided below. Any time over 13 minutes is considered not in the HFZ.
 - $VO2 \text{ max} = (.21 * \text{age} * \text{gender}) - (.84 * \text{BMI}) - (8.41 * \text{time}) + (.34 * \text{time} * \text{time}) + 108.94$
 - Gender = 1 for males and 0 for females
 - Time is in minutes (Convert One-Mile Run time from minutes and seconds to minutes for use in this equation by dividing the seconds by 60 and adding the resulting decimal to the minutes.)
 - BMI is Body Mass Index
 - Healthy Fitness Zones*

Age	Females	Males
13	≥ 39.7	≥ 41.1
14	≥ 39.4	≥ 42.5
15	≥ 39.1	≥ 43.6
16	≥ 38.9	≥ 44.1

Body Composition

The Body Composition fitness area targets the various factors that contribute to an individual's total weight (i.e., percent of muscle, bone, organ, and fat content). Body Composition assessments estimate the level of body fat or the appropriateness of student's weight relative to his or her height. This component of fitness is considered important because excessive fat content is associated with health problems, such as coronary heart disease, stroke, and diabetes. These standards reflect the natural developmental trends for females and males, with boys gaining muscle with age and girls tending to gain body fat through the adolescent years.

- Body Mass Index
 - The Body Mass Index, which is commonly referred to as the BMI, is not an estimate of body fat. Instead, it provides information on the appropriateness of a student's weight relative to his or her height
 - Healthy Fitness Zones*>

Age	Females	Males
13	22.9 – 15.7	22.2 – 15.8
14	23.6 – 16.2	23.0 – 16.4
15	24.3 – 16.7	23.7 – 16.9
16	24.8 – 17.1	24.5 – 17.5

Abdominal Strength and Endurance

Abdominal strength and endurance are important in promoting good posture and correct pelvic alignment. The latter is important in the maintenance of lower back health.

- Curl Ups
 - Students are to complete as many Curl-Ups as possible (to a maximum of 75), at a specified pace of about one Curl-Up every three seconds. On a mat, students lie on their backs with their knees bent at a 140° angle, feet flat on the mat and their hands at their sides, palms face down. Moving slowly, students curl up, sliding fingers across a measuring strip on the mat, and then curl back down until the head touches the mat. Students are stopped when the second form break occurs
 - Healthy Fitness Zones*



Age	Females	Males
13	18	21
14	18	24
15	18	24
16	18	24

Trunk Extensor Strength and Flexibility

Trunk extensor strength and flexibility is an important component of fitness because it predicts first time and recurrent lower back pain – a major source of disability and discomfort in the United States. Although risks of developing back pain are greater with age, awareness and attention to trunk musculature at an early age is important to reduce future risks.

- Trunk Lift
 - While lying face down on a mat, students are asked to slowly lift the upper body off the floor, using the muscles of the back, to a maximum of 12 inches. Students need to hold the position for measurement (i.e., distance from the floor to the student's chin), which is recorded in whole inches only. During the test, students should be instructed to keep their eyes focused on a spot on the floor. Once the measurement is made, the student returns to the starting position. A second trial is conducted, and the highest score is recorded.
 - Healthy Fitness Zones*



Age	Females	Males
13-16	9-12	9-12

Upper Body Strength and Endurance

Upper body strength and endurance is an important fitness area that contributes to the maintenance of functional health and good posture.

- Push-Ups
 - Students are instructed to complete as many 90° Push-Ups as possible at a specified pace (of about one push-up every three seconds), up to a maximum of 75. Students are stopped when the second form break occurs.
 - Healthy Fitness Zones*

Age	Females	Males
13	7	12
14	7	14
15	7	16
16	7	18



Flexibility

Flexibility of the joints, both in the upper and lower body, is an important component of health-related fitness. People benefit from increased flexibility on a daily basis, both in routine tasks and those associated with more rigorous physical activity.

- Back-Saver Sit and Reach
 - Students are instructed to reach the specified distance on the left and right sides of the body. Starting in a sitting position, with the left leg extended (the foot is flat against front side of the box needed for this test) and the right leg bent, the student reaches forward with both hands along the scale of the box. The student reaches four times and holds the position on the fourth reach for at least one second. The distance the student reaches is recorded. To measure reach distance with the other side of the body, the same procedure is repeated with the extended and bent legs switched. The scores are recorded separately for the two sides of the body. To be in the HFZ for the Back-Saver Sit and Reach, the student should meet the reach criteria using both the left and right sides of the body.
 - Healthy Fitness Zones*

Age	Females	Males
13	10	8
14	10	8
15	12	8
16	12	8



*These Healthy Fitness Zones are from 2014-2015. If there are any changes we will let you know prior to the test.