

Test Administrator's Manual

The "Third Generation" Connecticut Physical Fitness Assessment



Connecticut State Department of Education

2009



The Third Generation Connecticut Physical Fitness Assessment Test Administrator’s Manual is intended to explain the rationale for the test items selected for inclusion in the fitness assessment battery, provide descriptions of the tests and health-related performance standards, and provide answers to some common questions associated with the use and interpretation of the overall assessment.

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Introduction

Physical fitness is an important component of Connecticut's overall educational program goals. It is expected that by the end of Grade 12 students will recognize the importance of and choose to participate regularly in physical activities designed to maintain and enhance healthy lifestyles. The Connecticut Physical Fitness Assessment (CPFA) is evidence of a commitment to the physical development of Connecticut's students, as well as a commitment to focusing on outcomes and specific performance objectives. Physical fitness should be a result of the balance of activities that are provided in the physical education programs at school and continued by the family and in other community activities. This assessment should not be the focus of the entire physical education curriculum or program. Rather, the assessment should be a part of the ongoing process of helping children understand and improve and/or maintain their physical health and well-being.

The goals of the assessment program are to:

- ◆ provide for continual monitoring of students' fitness levels in targeted grades;
- ◆ identify a student's weaknesses and strengths so that areas in need of improvement can be seen and individual programs can be developed;
- ◆ inform students and parents about student fitness status; and
- ◆ inform schools, districts and the public about programs focusing on fitness and physical activity in our schools and evaluate their success.

The focus of the *Third Generation* CPFA is health-related fitness. The program mirrors options in the President's Challenge Physical Fitness Program and FitnessGram/ActivityGram. Changes to the assessment include improvements that address problems with specific test items and their administration, and reflect the careful research and piloting conducted by the *3rd Generation* Connecticut Physical Fitness Assessment Committee as well as physical educators from across the state.

Health-related fitness focuses on optimum health and prevents the onset of diseases and problems associated with inactivity. Maintaining an appropriate level of health-related fitness allows a person to:

- ◆ meet emergencies;
- ◆ reduce the risk of disease and injury;
- ◆ work efficiently;
- ◆ participate and enjoy physical activity (sports, recreation leisure); and
- ◆ be one's physical best.

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History of the Connecticut Physical Fitness Assessment Program

1990-2009

1990-91 was the first year for the Connecticut Physical Fitness Assessment (CPFA). Physical fitness is an important component of Connecticut's overall education program goals. *Challenge for Excellence: Connecticut's Comprehensive Plan for Elementary, Secondary, Vocational, Career and Adult Education: A Policy Plan – 1991-1995*, adopted by the State Board of Education, cites the learning of lifelong values of physical fitness as a life skill competency. The document also cited, "an increase in the physical fitness of students," as one of *16 Indicators of Success of the Statewide Educational Goals for Students*. In addition, *Connecticut's Common Core of Learning* includes physical development as part of the major curriculum content, with the expectation that students will understand the lifelong value of physical fitness and plan and implement a physical fitness program with a variety of conditioning exercises and/or leisure activities. The CPFA is evidence of a commitment to the physical development of Connecticut's students as well as a commitment to focusing on outcomes and specific performance objectives. The program provides important statewide information about the fitness of Connecticut students tested in grades 4, 6, 8, and 10.

The goals of the assessment program are to:

- ◆ provide for continual monitoring of students' fitness levels in targeted grades;
- ◆ provide additional test achievement information about students, schools, and districts;
- ◆ provide earlier identification of students not meeting a fitness standard; and
- ◆ improve instruction as a result of test analysis.

The assessment program provides clear goals for minimum fitness based upon standards established by the American Alliance for Health, Physical Education, Recreation and Dance. The test does not provide standards for high levels of fitness, but establishes a minimum level for fitness based on health-related criteria. In addition, the assessment program provides standards established by the State Department of Education and physical educators for an "at-risk" fitness level.

With the passage of Public Act 90-324, Section 4, Connecticut joined a growing number of states which report accountability data by school, as well as by district or statewide. Section 10-220(c), of the Connecticut General Statutes required that each local and regional board of education submit a Strategic School Profile report for each school and for the district as a whole. The profile is designed to provide information on measures of student needs, school resources, and student and school performance. The primary purposes of the reports are: 1) to operate as an accountability system to inform the public about education outcomes; 2) to act as a catalyst for promoting school and district improvement.

Each Strategic School Profile addresses the characteristics, needs and resources of school and district, availability of a gymnasium, time allotted for physical education instruction in grades 4, 6, 8, and 10, and participation in athletics and extracurricular activities.

Student physical fitness performance is reported on the profile, thus providing an opportunity for physical educators to assess and compare the performance of their students on school, district, and state levels. This also provides an opportunity to review and improve physical education programs.

The health-related components of physical fitness are flexibility, muscular strength, muscular endurance, cardiorespiratory endurance, and body composition.

The original assessment included sit-and-reach, sit-up, pull-up, one-mile run-walk, and body mass index (reporting optional) components. Health-related standards were developed from national standards for the compendium of physical fitness assessments that are frequently used across the country on, notably, the President's Challenge and the Physical Best fitness assessment batteries.

Pilot studies were conducted in 1996-97 to investigate various alternative assessments, with over 200 physical education teachers across the state participating in the pilot. A committee of experts in physical education and exercise science worked for two years on the revision of the assessment. The review process included review of national publications and programs across the country. The Physical Fitness Assessment: *Second Generation* was announced in September of 1998. The new version of the CPFA included the one-mile run-walk, partial curl-up, right-angle push-up, modified sit-and-reach, and the BMI (now required).

Health-related and challenge standards were developed through collection of state-wide data over the next year. Beginning in Fall 2005, a series of forums began inviting comment and discussion from the physical education and exercise science field across Connecticut in a move to review the current state physical fitness assessment program, its purposes, components, administration, and timing, and whether there exists a need for updating or change.

The Connecticut Physical Fitness Assessment “*Third Generation*” Program

The Connecticut Physical Fitness Assessment Program (CPFA3P) includes a variety of health-related physical fitness tests designed to assess muscle strength, muscular endurance, flexibility and cardiovascular fitness. Criterion-referenced standards associated with good health are used rather than the previously applied normative standards. The improvements in the test battery are the result of thorough research and pilot testing of proposed changes by a DRG-representative group of districts across the state.

For the 2009-10 school year there will be a significant change in the aerobic endurance test. Districts will have the option of using the one-mile run/walk or the P.A.C.E.R. to determine $V_{O_2}MAX$.

$V_{O_2}MAX$ is an abbreviation for aerobic capacity. Aerobic capacity is the most important area of any physical fitness program. Acceptable levels of aerobic capacity are associated with a reduced risk of high blood pressure, coronary heart disease, obesity, diabetes, some forms of cancer, and other health problems. Aerobic capacity is also commonly referred to as cardiovascular fitness, cardiorespiratory fitness, aerobic fitness, aerobic work capacity, physical working capacity, and aerobic endurance.

P.A.C.E.R. stands for **Progressive Aerobic Cardiovascular Endurance Run**. It is a multi-stage fitness test, performed in a shuttle-run format, that helps children pace themselves effectively, and is generally regarded as more fun for younger children than the mile run because the pace can be set to music. The P.A.C.E.R. is a viable alternative to the mile run, even though both tests measure aerobic endurance, because it can be administered indoors or in a much smaller area than is needed for the mile run.

The **back-saver sit-and-reach** is a measure of joint flexibility, which is important to overall functional health. Stretchability and symmetry of the hamstring muscles at the back of the legs, and flexibility of the spine are important to general fitness, injury avoidance and long-term back health. The revised version of the test allows greater accommodation for the differences in the length of the arms and legs of growing children, thus is more accurate, and reduces strain on the knees.

The **shoulder stretch** has been added as an optional activity (results not reported to state database) for instructional purposes. The shoulder stretch is a simple test of upper arm and shoulder girdle flexibility. If used in conjunction with the back-saver sit-and-reach, it may be useful in educating students that flexibility is specific to each joint and that maintaining flexibility in the shoulder complex is as important as other joints for general fitness and injury avoidance.

The **90⁰ push-up** is a test of upper body muscle strength and endurance. Strength and endurance of the muscles of the upper body are important in activities of daily living, maintaining functional health and promoting good posture.

The **curl-up** is a test of abdominal strength and endurance. Strength and endurance of abdominal muscles are important in promoting good posture and correct pelvic alignment, both important elements in good back health. The previous version of the curl-up sometimes caused neck strain and did not account for the differences in the length of arms and legs of growing children. The improved version addresses both of these problems as well as better isolating the abdominal muscles for a more accurate indication of strength and endurance.

Test Items

The goals of the Connecticut Physical Fitness Assessment Program are unchanged. The CPFA3P test items are represented in the table below, which shows the previous test items as well as the difference between them.

Health-related Component	2 nd Generation (1999)	3 rd Generation (2009)	Change
<ul style="list-style-type: none"> • Flexibility 	<ul style="list-style-type: none"> • Back-saver sit-and-reach 	<ul style="list-style-type: none"> • Back-saver sit-and-reach (improved version) • Shoulder stretch (optional) 	<ul style="list-style-type: none"> • Adjusted for lower back • Addition of shoulder flexibility check
<ul style="list-style-type: none"> • Upper body muscle • Strength and endurance 	<ul style="list-style-type: none"> • Right-angle push-up 	<ul style="list-style-type: none"> • 90° push-up 	<ul style="list-style-type: none"> • None • Name changed for consistency with research and literature
<ul style="list-style-type: none"> • Abdominal muscle strength and endurance 	<ul style="list-style-type: none"> • Curl-up 	<ul style="list-style-type: none"> • Curl-up • (improved version) 	<ul style="list-style-type: none"> • Adjusted for limb length and neck comfort
<ul style="list-style-type: none"> • Aerobic endurance 	<ul style="list-style-type: none"> • Mile run 	<ul style="list-style-type: none"> • Mile run or P.A.C.E.R. 	<ul style="list-style-type: none"> • District option, focus on vO₂max
<ul style="list-style-type: none"> • Body composition 	<ul style="list-style-type: none"> • BMI 		<ul style="list-style-type: none"> • BMI not included

Instructions for Test Administrators

Who will be tested?

All students in Grades 4, 6, and 8 participating in physical education during the physical fitness testing period must be tested.

Students with physical disabilities or medical conditions, whose participation in the test items would be contraindicated because of their health, and who have a medical excuse on file in the school, should be excused.*

Who will administer the test items?

A physical educator trained in the CPFA test administration must conduct the testing.

Other adults may be trained to assist under the supervision of the physical education teacher, e.g., staff, parents, college students.

Students may not be used as monitors for testing. This is a productive teaching strategy during the instruction and practice of exercise, but it is not allowed during the testing. If grouping strategies are used for classroom and test management, they should be arranged in a manner that ensures close oversight by the test administrator.

When will the testing occur?

The seven-week testing period will begin during the last week of September and continue through the second week of November. All students, Grades 4, 6, and 8 participating in physical education classes during that time must be tested.

The testing window for Grades 4, 6, and 8 is extended until March 31 for those students who are not scheduled for physical education during the primary testing period, but are scheduled later in the year.

For Grades 9-12

Effective 2016-17, the expectation is that high school(s) must administer the physical fitness assessment at least once to every student anytime during Grades 9 through 12. The administration of the assessment does not necessarily need to be tied to student participation in a physical fitness class.

High schools may also use summer school physical fitness courses as an opportunity to administer the assessment. For accountability purposes, the CSDE will continue to use the Grade 10 enrollment numbers to calculate the estimated participation rate. High schools may choose to continue to administer the Physical Fitness Assessment to Grade 10 students. However, please note that the assessment offers age-based criterion-referenced standards, so the assessment in high school need not be limited to only students in Grade 10. Each student should have their results reported to the state only once in Grades 9-12.

How is test data reported?

Students' age is based on how old they are at the time they begin the battery of tests.

Standards used for reporting and goal setting are included as Appendix A of this manual.

Testing report forms are found in the 'forms' section of this manual. They include:

- ◆ Class Record Forms – To be maintained by the physical education teacher
- ◆ Summary Report Form – One copy to be kept by the physical education teacher. One copy to be given to the building principal for inclusion on the ED-165 to the State Department of Education
- ◆ Individual Student Report Form – For use as a district and/or school decides e.g. for reporting information to parents/guardians; for keeping individual student records; and for use with individual students in developing a plan.

Note: Only the data on the Summary Report Form are included in the district report to the State Department of Education. The Summary Report Form is given to the building principal. Class Record Forms and Individual Student Report Forms are for use in the school and district.

The data collected are included on each individual school and district's Strategic School Profile and in the Condition of Education in Connecticut, released annually.

*Students with medical exemptions on file in the school and/or limited activities through an Individual Education Plan (IEP) or a 504 Plan may be exempt from participating in part or all of the Connecticut Physical Fitness Assessment. Schools should have in place a process for determining if activities and standards are appropriate for an individual student. If the assessment and/or the standards are inappropriate for the individual child with a disability, than those student's scores should not be included on the data collection for the Strategic School Profile. Fitness scores should be included only for those students who were tested on all four of the test items.

Responsibilities of Test Administrators

Test administrators must be trained in the administration of the CPFA3P. This training will ensure consistency and accuracy in administration of testing procedures and maximize efficiency. Further, it will help test administrators to adequately prepare for the testing sessions.

Test administrators should plan for the following:

Prior to Testing

- ◆ Attend CPFA3P Test Administration Training, and/or
- ◆ View CPFA3P Fitness Testing Video, which shows proper positioning and administration of the fitness tests.
- ◆ Use CPFA Fitness Committee members to provide advice and offer helpful hints and suggestions prior to and during the testing period.
- ◆ Arrange for assistance, facility use and other special scheduling as needed.
- ◆ Standardize equipment, check calibrations and measurements to assure consistency and accuracy.
- ◆ Practice with any equipment that will be used (i.e., audiotape or metronome, curl-up strips, sit-and-reach box, stopwatches). Have back-up equipment available.
- ◆ Make copies of needed forms: Class Record Form – Boys and Girls, Summary Report Form.
- ◆ Record students' ages, based on how old they are when they begin the battery of tests.
- ◆ Inform parents/guardians about the testing.
- ◆ Prepare students with adequate instruction and practice time in the techniques to properly perform the test items.
- ◆ Use written descriptions of test items, the CPFA3P Fitness Testing Video and demonstrations to meet various learning styles of students.
- ◆ Clarify levels of expectations. Post standards for students to see.

During Testing

- ◆ The organization and administration of the testing session is the responsibility of the test administrator.
- ◆ Any area conducive to activity and exercise which is safe and free from obstruction can be used. Consideration should be given to assure safety and fairness in testing.
- ◆ Though it is impossible to avoid all variables (e.g., wind, running surfaces...) it is expected that teachers will make every effort to achieve accurate and consistent data.
- ◆ Outdoor testing should occur on days when the temperature, humidity and air quality are at acceptable health levels. The physical education teacher or school administrator should consult with the school nurse supervisor or school medical advisor in making this judgment.
- ◆ Test items may be administered in any order. More than one test item may be administered in any one session. All students need not be tested on the same item in any one session.
- ◆ Students are not allowed to repeat test items in order to achieve better scores.
- ◆ Volunteer help is encouraged. Volunteers (i.e., classroom teachers, administrators, parents, college students) can be trained to assist with recording scores, counting or other tasks.
- ◆ Students may not be used as scorers during testing. Using well-trained students is a productive teaching strategy during the instruction and practice of the tests, but scoring their peers' test performance is not allowed during the testing.

After Testing

- ◆ The test administrator must summarize the data at the bottom of each Class Record Form.
- ◆ Summarized data should be transferred to the Summary Record Form.
- ◆ The physical education teacher should keep a copy of all forms as a back-up and for analysis of data for individual students as well as schools.
- ◆ The Summary Record Form should be given to the building administrator. Do not send a copy to the State Department of Education.
- ◆ Data is reported on the ED165 to the State Department of Education for inclusion in the Strategic School Profiles and Condition of Education.
- ◆ The Summary Record Form should be given to the building administrator as soon as testing is complete.
- ◆ Inform parents of results (Individual Student Report Form).
- ◆ Continue to include fitness instruction and activities throughout the year.
- ◆ Follow up with those students who did not meet minimal standards, i.e., provide additional testing, develop a fitness plan, and work with parents or guardians, and the school nurse.

General Test Administration Suggestions

Use a circuit or station model, where the test administrator can focus on testing a small group of students performing one test item, while the other students work independently on other physical skills, challenges or activities at other stations.

Promote a “Fitness Day,” where parent volunteers can be recruited to assist with the testing. This is a positive way to promote fitness and your physical education program within the community.

Show the Connecticut Physical Fitness Assessment video to students. Develop handouts for each test item which include a general description of the purpose and procedures for each component, as well as pictures of correct form. Design a bulletin board emphasizing the components of fitness, the tests and activities to enhance each component.

Validity of the data is compromised if the tests are administered poorly, if there are errors in recording the results, if the examiners, and/or students did not take the testing process seriously, or if teachers did not approach the assessment with professionalism. Be especially diligent in maintaining the integrity and authenticity of this testing process.

Frequently Asked Questions

What are criterion-referenced health standards and how are they determined?

There are several types of standards commonly used with fitness tests. The CPFA3P uses criterion-referenced health standards or standards associated with good health. Scientific information is used to determine the amount of fitness needed to meet minimum health levels. The CPFA3P uses a “*Health-Related Fitness Zone*” to designate the range of fitness scores associated with good health. Scores falling below the Health-Related Fitness Zone are categorized as being in the “*Needs Improvement Zone*” to indicate that efforts are needed to bring the score into the Health-Related Fitness Zone. Fitness test performances that exceed the top score of the Health Fitness Zone are in the “*High Fitness Performance Zone.*” The goals in Health-Related Fitness Zone are criterion-referenced health standards because they are based on how much fitness a child needs for good health. Normative standards (e.g., percentiles) provide comparisons relative to other youth in a group but do not provide information concerning how the values relate to health.

Should feedback be provided?

Providing feedback is an important element of physical fitness assessment. Feedback should provide the status of students’ fitness based on health criteria, feedback to help interpret results, and information that is useful in planning programs for improvement of fitness through regular physical activity. Teachers may include student reports as part of student physical education portfolios along with other information related to important physical education objectives. Reports may also be sent to parents. If this is done, it is recommended that plans be implemented to meet with parents to help them interpret test results and to become aware of ways to help students plan personal physical activity programs that are suited to each child’s personal needs.

Why do some standards for boys and girls differ?

Two factors must be taken into account when determining criterion-referenced health standards: inherent physiologic differences between genders (performance) and differences in health risks between genders. Due to physiologic and anatomic differences between the genders, there may be inherent performance differences between boys and girls for a specific fitness component. For example, differences in cardiac function and body composition between adolescent boys and adolescent girls result in adolescent boys, as a general rule, having a higher aerobic capacity than adolescent girls. For example, if the minimum VO_{2max} for healthy girls is 28 ml. $kg^{-1} \cdot min^{-1}$ and for healthy boys, 32 ml. $kg^{-1} \cdot min^{-1}$, setting the same standard for both sexes on the 1-Mile Run Test would not be appropriate. In the case of aerobic capacity, the gender differences are taken into account, along with existing data on health risks in order to determine the standards. Likewise, should physiologic differences between genders occur, but existing data show health risks between genders occurring at the same absolute level, then the criterion standard should be the same for boys and girls, despite the performance differences. The key point is how differences in performance relate, in an absolute sense, to the criterion health standard. There may be a difference in the relation between the field test and the criterion for boys and girls. Thus, the standard for the boys and girls will differ because risk is elevated at different points. The accurate way to reflect this relation is to have different criterion-referenced standards for the boys and girls. (Source: Welk, G. J. & Meredith, M.D. (Eds.). (2008). *Fitnessgram / Activitygram Reference Guide*. Dallas, TX: The Cooper Institute).

Why are some standards for boys and girls the same?

In a few cases, the standards for boys and girls may not be different. When there is no valid reason for expecting a difference in the performance of boys and girls, the standards should be the same for both groups. Young children, particularly in grades 1-6, do not always possess the physical and physiological differences that appear as boys and girls approach puberty (Falls & Pate, 1993). When this is true, the same standards may be used for both groups (*Source:* Welk, G. J. & Meredith, M.D. (Eds.). (2008). *Fitnessgram / Activitygram Reference Guide*. Dallas, TX: The Cooper Institute).

Why are standards for aerobic endurance lower for girls than for boys?

Inherent, gender-related differences in body composition and in hemoglobin concentration cause aerobic capacity, referred to as $\dot{V}O_2\text{max}$, for boys and girls who have the same level of physical activity to be different. The differences prior to puberty are very small or nonexistent (for hemoglobin concentration), but they increase during puberty and adolescence. These differences are linked in part to differences in the reproductive hormones. The lower $\dot{V}O_2\text{max}$ in girls compared to boys with the same physical activity level are not thought to be associated with increased health risk. The standards for boys and girls reflect the different levels of $\dot{V}O_2\text{max}$ that are associated with increased health risk in adults (*Source:* Welk, G. J. & Meredith, M.D. (Eds.). (2008). *Fitnessgram / Activitygram Reference Guide*. Dallas, TX: The Cooper Institute).

Should students who are physically challenged be included in fitness testing?

“No otherwise qualified handicapped individual in the United States... shall, solely by reason of his handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity which receives benefits from Federal financial assistance” (Section 504).

In administering the Connecticut Physical Fitness Assessment, students with disabilities or any kind of special need should be included to the greatest extent possible. Fitness activities, exercises and testing should be part of the physical education curriculum and offered to all students. Historically, fitness tests were designed only for nondisabled persons. The test included in this manual, though designed for nondisabled students, can be personalized to include all. Due to the fact that emphasis is placed on a personalized approach and the reality that physical fitness profiles, components and test items for disabled students require modification from those typically used, the many possibilities are not included in this document. Resources are available to assist physical educators with both the testing and standards that are appropriate for assessing the physical fitness of students with disabilities.

A child who is tested using an alternate method or with adjusted standards should not be included in the aggregate totals on the Summary Data Report. If a child with a disability meets standards that are appropriate for them, they should be recognized along with other children who meet the health-related fitness standards.

There are many resources available regarding levels of performance and the use of fitness assessments for students with disabilities. Some of these are included in the resource section of this manual.

Rationale for Test Items

Aerobic Endurance Assessments

What is the rationale for assessing aerobic endurance?

Aerobic endurance is the most critical element of physical fitness. Research indicates that healthy levels of aerobic endurance are associated with reduced risk of high blood pressure, coronary heart disease, obesity, diabetes, some forms of cancer, and other health problems in adults. Aerobic endurance is also referred to as cardiorespiratory fitness. The benefits of cardiorespiratory fitness are summarized in Physical Activity and Health: A Report of the Surgeon General (U.S. Department of Health and Human Services, 1996).

What is the rationale for the P.A.C.E.R. test?

The P.A.C.E.R. (Progressive Aerobic Cardiovascular Endurance Run) is a multi-stage aerobic fitness test that provides a built-in warm-up and helps children pace themselves effectively. It is suggested that the test be set to a musical pace to create a valid, fun alternative to the one-mile run for aerobic endurance. Pilot testing shows that most students had a positive experience in performing the PACER, the test helps students to learn the skill of pacing, and negative experience of some students in finishing last in a distance run is eliminated in this test.

What is the rationale for the one-mile run test?

The one-mile run has been a standard element of the Connecticut Physical Fitness Assessment Program since its inception. Many students enjoy distance running and are highly motivated by the activity both for sport and recreation. Numerous physical education and athletic programs across the state include curricular and extra-curricular distance running activities. There is significant research that has been conducted over a long period of time that supports the value of running for children as well as the validity and reliability of evaluating aerobic fitness with the one-mile run test.

Flexibility Assessments

Back-Saver Sit-and-Reach

What is the rationale for the back-saver sit-and-reach test?

The recommended item for lower body flexibility assessment is the Back-Saver Sit-and-Reach Test. The assessment is conceptually similar to the more traditional Sit-and-Reach test but is intended to be safer on the back by restricting flexion somewhat. With the traditional sit and reach assessment, the forward flexion movement of the trunk with the legs extended causes the anterior portion of the vertebrae to come closer together such that the discs bulge posteriorly and the muscles, fascia, and ligaments of the back are stretched. It also involves a forward rotation of the pelvis and sacrum which elongates the hamstrings. Cailliet (1988) has pointed out that stretching both hamstrings simultaneously results in "overstretching" the low back, especially in terms of excessive disc compression and posterior ligament and erector spinae muscle strain. An additional advantage of the Back saver Sit and Reach is that it allows the legs to be evaluated separately. This allows for the determination of symmetry (or asymmetry) in hamstring flexibility. In addition, testing one leg at a time eliminates the possibility of hyperextension of both knees.

Shoulder Stretch

What is the rationale for including the shoulder stretch?

The shoulder stretch has been added to the CPFA3P as an option to try and illustrate to students that flexibility is important throughout the body – not just in the hamstrings, and that flexibility is very specific to each joint. It is intended to parallel the strength/endurance functional assessment of the upper arm and shoulder girdle. Too often, just assessing one flexibility item gives students the false impression that a single result indicates their total body flexibility, which, of course, is not true. No validity or reliability data are available for the shoulder stretch.

Muscular Strength and Endurance

Why is muscular fitness important?

Balanced, healthy functioning of the musculoskeletal system requires that muscles be able to exert force or torque (measured as strength), resist fatigue (measured as muscular endurance), and move freely through a full range of motion (measured as flexibility). Positive relationships have been demonstrated between musculoskeletal fitness and health status (risk factors, disease development and all-cause mortality) in adults (Brill, Macera, Davis, Blair, & Gordon, 2000; Fitzgerald, Barlow, Kampert, et al., 2004; Jurca, Lamonte, Barlow, et al., 2005; Katzmarzyk & Craig, 2002; Kell, Bell & Quinney, 2001; Mason, Brien, Craig, Gauvin, & Katzmarzyk, 2007; Payne, Gledhill, Katzmarzyk, Jamnik & Ferguson, 2000b). The tracking of neuromuscular fitness has been shown to be moderately high (and higher than cardiovascular respiratory fitness) from adolescence to young adulthood (Twisk, Kemper, & vanMechelen, 2000). For these reasons, strength, endurance and flexibility are viewed as important dimensions of health-related fitness.

Upper Body Strength and Endurance - The 90° Push-up Test

What is the rationale for the 90° push-up test?

A number of assessments of upper arm and shoulder girdle strength/endurance have been used in various youth fitness batteries. The most commonly used assessment is the push up test. The 90° push-up was selected as the recommended test item in the CPFA3P because it has some very practical advantages over the pull-up. The most important advantages are that it requires no equipment and very few zero scores occur. The use of a cadence (20 reps per minute) with the push-up has been found to eliminate many of the concerns about all-out speed tests. The majority of children can successfully perform the 90° push-up assessment and have a more favorable experience.

Abdominal Strength and Endurance - The Curl-Up Test

What is the rationale for the curl-up test?

A cadence-based curl-up test is recommended for abdominal strength/endurance testing in the *CPF3AP* battery. The selection of this test over a full sit-up assessment was based on extensive research and biomechanical analyses of arm placement, leg position, feet support, and range of motion of the movement (Plowman, 1992b). The use of a cadence (20 reps per minute) with the curl-up has been found to eliminate many of the concerns about the ballistic nature of one-minute all-out speed tests (Jette, Sidney, & Cicutti, 1984; Liemohn, Snodgrass, & Sharpe, 1988). Such timed tests with legs straight or bent often result in bouncing, jarring movements and reflect more power than strength or endurance properties and/or allows the use of accessory muscles (Sparling, Milard-Stafford, & Snow, 1997). The use of a pace helps to avoid early fatigue based on starting too fast, standardizes the movement from person to person, and makes it easier to judge whether a full proper repetition has been completed. In addition, the use of a cadence allows students to focus on their own performance. There can be no competitive speeding up. In practice the 3-second pace is slow enough to accomplish the intended goals described above and fast enough to allow for efficient mass testing in school settings.

Test Descriptions

One-Mile Run/Walk

Test Objective and Rationale

The objective of the test is to cover the distance of one mile in as short a time as possible. The purpose of the test is to measure cardiorespiratory or aerobic endurance. The one-mile run/walk is a good indicator of the ability of the circulatory and respiratory systems to supply oxygen to functioning muscles, in other words the capacity to perform activities using large muscle groups over an extended period of time. The importance of cardiorespiratory fitness lies in the fact that heart disease is a leading cause of death in our society.

Equipment and Facilities

- ◆ Stopwatch
- ◆ Accurately measured mile on a level surface (see Appendix B)

Test Preparation

Students should receive ample instruction on pacing and practice in running for distance.

Emphasis should be placed on developing the fastest pace that can be sustained for the full distance covered.

A warm-up time should precede the test.

Test Performance

Students are instructed to run/walk one complete mile in the fastest time possible.

Scoring

Record the minutes and seconds it takes for each student to complete the distance of one mile.

P.A.C.E.R.

PACER (Progressive Aerobic Cardiovascular Endurance Run) – Set to music, a paced, 20-meter shuttle run increasing in intensity as time progresses

The P.A.C.E.R. is a multi-stage fitness test adapted from the 20-meter shuttle run test published by Leger and Lambert (1982) and revised in 1988 (Leger et al.). The test is progressive in intensity, easier at the beginning and harder at the end.

Test Objective and Rationale

The objective of the test is to run as long as possible back and forth across a 20-meter space* at a specified pace that gets faster each minute. The purpose of the test is to measure cardio-respiratory or aerobic endurance ($V_{O_2}^{Max}$). The PACER is a good indicator of the ability of the circulatory and respiratory systems to supply oxygen to functioning muscles, in other words the capacity to perform activities using large muscle groups over an extended period of time. The importance of cardiorespiratory fitness lies in the fact that heart disease is a leading cause of death in our society.

* A 15-meter version of the test can be used by teachers with smaller-sized facilities. Specifications for the 15-meter version are included in the appendices.

Equipment and Facilities

- ◆ Stopwatch
- ◆ Accurately measured 20-meter distance on a non-slippery and flat surface free of debris (see Appendix C) A 15-meter course may be substituted if necessary (Be sure to apply standards for 15-meter test).
- ◆ CD or audiocassette player with adequate volume
- ◆ CD or audiocassette cadence recording
- ◆ Measuring tape, marker cones, pencils, copies of score sheets (found in the appendix)

Test Preparation for Students

Students should receive ample instruction on pacing and practice in running for distance. Emphasis should be placed on developing the fastest pace that can be sustained for the full distance covered.

When to Stop

The first time the student does not reach the line by the beep, the student stops where he/she is and reverses direction immediately, attempting to get back on pace. The test is completed for a student the next time (second time) he/she fails to reach the line by the beep. The two corrections do not have to be consecutive; the test is over after two total corrections. Students just completing the test should continue to walk and stretch in a designated cool-down area. A student who remains at the end of the testing area through two beeps (does not run to the other end and back) should be scored as having two corrections, and therefore the test is over.

Scoring

A lap is one 20-meter distance (from one end to the other). The scorer records the lap number by crossing off the corresponding lap number on the PACER score sheet (Appendix C1). The recorded score is the total number of laps completed by the student. For ease in administration, it is permissible to count the first correction (student not making the line by the beep).

For test management purposes within the time constraints of class schedules, it is suggested that the duration of the PACER test be limited to 20 minutes.

Back-Saver Sit-and-Reach

Test Objective and Rationale

Maintaining adequate joint flexibility is important to overall health. Testing one leg at a time helps to identify any asymmetry in hamstring flexibility while avoiding hyper- extension of both knees. The purpose of the sit-and-reach test is to measure predominantly the flexibility of hamstring muscles. Normal hamstring flexibility allows rotation of the pelvis in forward bending movements and posterior tilting of the pelvis for proper sitting.

The objective of the test is to reach the specified distance on the right and left sides of the body.

Equipment

The back-saver sit and reach test requires a 12” x 12” x 12” box, with a measuring scale placed on the top of the box that extends toward the student. The 9-inch mark on the scale is parallel to the face of the box against which the student’s foot will rest. The ‘zero’ end of the ruler is nearest the student (See Appendix D for box specifications). Makeshift apparatuses are permitted as long as the 9-inch mark of the ruler is at the edge and the ‘zero’ is toward the student.

Test Description

Testing one leg at a time, students sit with one knee bent (with that foot flat on the floor) and one leg straight, with the foot of the straight leg against the box. The student then reaches forward with both hands to the farthest point he/she can reach on the measuring scale.

Starting Position

The student sits facing the box without shoes.

The foot line is at 9 inches, with the zero end of the measuring device closest to the student.

One leg is extended, with the foot placed flat against the end of the box. The other knee is bent, with the sole of the foot flat on the floor. The instep is positioned in line with, and 2 to 3 inches to the side of, the straight knee.

The knee of the extended leg should remain straight and the hips must remain square to the box.

Test Performance

The arms are extended forward over the measuring scale with hands placed one on top of the other. With palms down, the student reaches directly forward (keeping back straight and head up) with both hands along the scale four times and holds the position of the fourth reach for at least one second. After one side has been measured, the student switches the position of the legs and reaches again. The student may allow the bent knee to move to the side as the body moves forward if necessary, but the sole of the foot must remain on the floor.

Scoring

Record the number of inches on each side to the nearest half-inch reached, to a maximum of 12 inches. To achieve the Health Fitness Zone, the student must meet the standards on both the right and left sides.

Shoulder Stretch

(optional – not reported)

Test Objective and Rationale

The shoulder stretch is a simple test of upper arm and shoulder girdle flexibility. If used with the back-saver sit-and-reach, it may be useful in educating students that flexibility is specific to each joint and that hamstring flexibility is not the only area for which flexibility is important. The objective of the test is to be able to touch fingertips together behind the back by reaching over the shoulder with one hand while reaching under the elbow with the other hand.

Equipment

None

Test Description

Students perform this test with a partner who can observe and indicate whether the tested student's fingertips touch, and, if not, the distance between the opposing fingertips.

Test Performance

With one arm over the shoulder and one arm tucked under behind the back, students try to touch the fingers of the opposite hands, and then alternate arms.

Scoring

If test results are recorded, a 'yes' is recorded for each side for which the fingers touch, and a 'no' for each side for which the fingertips do not touch. The fingertips must touch with the arms positioned both ways to pass this test.

90° Push-Ups

Test Objective and Rationale

The purpose of this test is to measure upper-body strength and endurance. The right-angle, or 90°, push-up is recommended as a test of upper-body strength and endurance. Muscle fitness is required for people of all ages in order to perform daily living and recreational activities with vigor and undue fatigue. The objective of the test is to complete as many 90-degree push-ups as possible at a specified pace.

Equipment

- ◆ Little equipment is required for this test.
- ◆ It is necessary to acquire or prepare an audiotape or use a consistent cadence of one push-up every three seconds (1.5 seconds up and 1.5 seconds down). A cadence recording of two minutes will allow the completion of 40 push-ups (See Appendix G for cadence recording instructions).
- ◆ A right-angle marker (See Appendix E for instructions)
- ◆ Push-ups may be performed on a mat.

Test Description

Measuring upper body strength and endurance, students lower the body to a 90-degree elbow angle and push up. Set to a specified pace, students complete as many repetitions as possible.

Starting Position

- ◆ The student assumes the prone position (face down).
- ◆ Hands are placed slightly wider than shoulder width with fingers stretched out.
- ◆ Legs are straight and parallel.
- ◆ Feet cannot be resting against an object.
- ◆ The back is straight.
- ◆ The head is positioned so the student is looking slightly in front of his or her hands.

Pre-Test Observation/Marking

Have students lower themselves to the appropriate right-angle position. This allows the student to feel and the teacher to sight the correct position. The use of a right-angle marker, set in front of the student's elbow as a guide, allows for a more accurate sighting (position will vary for each student).

Test Performance

The test begins in the up position.

The test administrator starts the cadence and signals the students to begin. Students may continue until they wish to stop or have made two form corrections.

Students begin performing push-ups according to the cadence. The correct push-up is performed to a pace of one complete push-up every three seconds (1.5 seconds down and 1.5 seconds up, with no hesitation).

Push-ups are continuous, with the muscles in a constant state of contraction and no resting. Emphasis is placed on the arm and shoulder muscles remaining engaged throughout the assessment.

Scoring

Record the total number of correctly performed push-ups. One complete push-up begins and ends in the up, or straight-arm, position.

Incorrect push-up performance, referred to as a form correction, includes:

- ◆ arching or sagging of the back;
- ◆ not achieving the right angle at the elbow during the down phase;
- ◆ not achieving the straight arm position during the up phase;
- ◆ knees touching the floor; or
- ◆ being off cadence.

The test is terminated when the student has any two corrections.

Curl-Ups

Test Objective and Rationale

The partial curl-up measures abdominal strength and endurance. Abdominal fitness is important to good health because low levels are associated with bad posture and lower back pain in later years. The test objective is to complete as many curl-ups as possible up to a maximum of 75 at a specified pace.

Equipment

It is necessary to prepare or secure an audiotape or use a consistent cadence of one curl-up every three seconds (1.5 seconds up and 1.5 seconds down), which is 20 curl-ups per minute. A cadence recording of 3 minutes will allow the completion of 60 curl-ups (See Appendix G for cadence recording instructions.)

A gym mat and a measuring strip are needed for every two students. The strip may be made of cardboard, tape, rubber, smooth wood, or any similar thin, flat material, and should be 30-35 inches long. For 5-9 year olds, a 3-inch wide strip is required. For 10 year olds and up, the strip should be 4.5 inches wide. See Appendix F for curl-up strip specifications.

A piece of paper, 8.5 X 11 inches, is also required.

Test Description

Measuring abdominal strength and endurance, students lie down in a supine position with knees bent and feet unanchored flat on the floor. The knees and feet should be slightly apart and arms straight and parallel to the trunk with palms of hands resting on the mat.

After the student has assumed this position, a partner is to place the measuring strip on the mat under the tested partner's legs so that the fingertips are just touching the nearest edge of the strip. The shoulders should be relaxed and un-hunched before the strip is placed. The partner also places a piece of paper under the tested partner's head. This is to provide an easily observable touching of the head to the mat on each repetition, as the paper will make a crinkling sound when the back of the head contacts it.

Set to a specified pace, students complete as many repetitions as possible to a maximum of 75 at the specified pace/cadence.

Test Performance

The student assumes the starting position. The test administrator starts the cadence and signals the student to begin.

Keeping heels in contact with the mat, the student is to curl up slowly, sliding fingers across the measuring strip until fingers reach the other side. Then the student uncurls until the head crinkles the paper on the mat. Movement should be slow and gauged to the audible cadence of 20 curl-ups per minute, or one curl-up every three seconds.

Scoring

The score is the total number of correctly performed curl-ups within the time limit.

A curl-up is complete each time the student's head returns to the mat.

Form corrections:

- ◆ Heels must remain in contact with the mat.
- ◆ Head must return to the mat on each repetition.
- ◆ Pauses and rest periods are not allowed. The movement should be continuous and with the cadence.
- ◆ Fingertips must touch both sides of the measuring strip for a completed repetition.
- ◆ The test is terminated when the student has performed any two corrections.

Data Collection and Reporting Forms

Class Record Form – Girls

Grade _____ Date _____ Class _____ Test Administrator _____

	Age When testing	√ If Medical Exemption	Aerobic Endurance One-Mile Run (min/sec) OR P.A.C.E.R. (# laps competed)		√ If Met Health- Related	Flexibility Back-Saver Sit-and- Reach		√ If Met Health- Related	Muscular Strength/ Endurance Curl-ups (#completed)	√ If Met Health- Related	Upper-Body Strength 90° Push-ups (#completed)	√ If Met Health- Related	√ For Students Meeting the Health Standard on All 4 Test Items
			One Mile	PACER		Left	Right						
Student Name													
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
Highlight those students tested on ALL 4 items then fill in the totals below including ONLY those students tested on ALL 4 items.													
Totals: Number of students tested on ALL 4 items. √													

****Students who were not tested on all four items should not be counted in the “Totals” for meeting Health Related Fitness Standards.**

*****If a student refuses to do a test item (and is not medically exempt) he/she scores a “0” and is counted.**

Class Record Form – Boys

Grade _____ Date _____ Class _____ Test Administrator _____

	Age When testing began	√ If Medical Exemption	Aerobic Endurance One-Mile Run (min/sec) OR P.A.C.E.R. (# laps competed)		√ If Met Health- Related	Flexibility Back-Saver Sit-and- Reach		√ If Met Health- Related	Muscular Strength/ Endurance Curl-ups (#completed)	√ If Met Health- Related	Upper-Body Strength 90 ⁰ Push-ups (#completed)	√ If Met Health- Related	√ For Students Meeting the Health Standard on All 4 Test Items
			One Mile	PACER		Left	Right						
Student Name													
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
Highlight those students tested on ALL 4 items then fill in the totals below including ONLY those students tested on ALL 4 items.													
Totals: Number of students tested on ALL 4 items. √													

****Students who were not tested on all four items should not be counted in the “Totals” for meeting Health Related Fitness Standards.**

*****If a student refuses to do a test item (and is not medically exempt) he/she scores a “0” and is counted.**

Connecticut Physical Fitness Assessment

Test Administrator's Summary Report Form

School _____ School District _____ Date _____

Test Administrator _____ Principal _____

Physical Fitness Assessment information will be reported on the Strategic School Profile. For test administrators teaching in more than one school, the information must be reported separately for each school. Information needed for this form can be found on the Class Record Form.

One copy of this Summary Report Form is to be submitted to the school principal for inclusion on the ED165 report to the State Department of Education. Test administrators should retain one copy of all forms for their own records. The **Health-Related Fitness Zone Standards** are the basis of the data reported on this form.

Totals: Taken from the bottom line of the Class Record Forms

	Grade 4	Grade 6	Grade 8	Grade 10
	Boys	Girls	Boys	Girls
A. Number of students tested on all 4 items				
B. Number of students medically exempt				
C. Number of students meeting the aerobic endurance standard (One-Mile Run/Walk or PACER)				
D. Number of students meeting the flexibility standard (Back-Saver Sit-and-Reach Test)				
E. Number of students meeting the upper body strength And endurance standard (90 ⁰ Push-Up Test)				
F. Number of students meeting the abdominal muscle strength and endurance standard (Curl-Up Test)				
G. Number of students meeting the standards on all 4 test items				

The number of students meeting a standard on any one test should never exceed the number tested on all 4 items.

Students who were not tested on all 4 items should not be counted in total reported on this form.

Students who refuse to perform a test item and are not medically exempt score a '0' and are counted in the totals.

Individual Student Report

Student Information

Name _____

Male ___

Female ___

Grade _____ Age _____

School _____

School District _____

Health-Related Fitness Component	Test Performance Results				Health Fitness Zone Standard		
	Student Score		Passing Standard		Not Met	Met	Exceeded
Aerobic endurance (One Mile Run/Walk or PACER)					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Flexibility (Back-Saver Sit-and-Reach)	Left	Right	Left	Right			
Flexibility (Shoulder Stretch)optional)	Left	Right	Left	Right			
Upper Body Muscle Strength and Endurance (90 ⁰ Push-Up)							
Lower Body Muscle Strength and Endurance (Curl-Up)							

Appendix A

Standards for Health-Related Fitness Zone

(Standards are in separate attachment)

Appendix B

Suggested Layouts for the One-Mile Run/Walk

The one-mile run/walk can be performed on any flat surface that measures one mile in distance. The course can be laid out in any shape which uses the area as efficiently as possible, maximizes straightaway running and minimizes corners or turns. It may be necessary to lay out a course around the perimeter of the school property or around the school building. Use of a measuring wheel or tape will provide accuracy. Pacing out an estimated mile is not acceptable. There are 5,280 feet or 1,760 yards in one mile.

1. A 440-yard track will require four laps to complete one mile.
2. An area marked off with 55 yards on all four sides will require eight laps to complete the mile. One lap would equal 220 yards (55×4). Eight laps would equal 1,760 yards (220×8).
3. An area marked off with 27.5 yards on all four sides will require 16 laps to complete the mile. One lap would equal 110 yards (27.5×4). Sixteen laps would equal 1,760 yards (110×16).

Appendix C

Specifications for Administering the P.A.C.E.R.

Test Preparation Instructions

Mark the 20-meter (21-yard, 32-inch) course with marker cones to divide lanes and a tape or chalk line at each end.

Make copies of score sheet A and B for each group of students to be tested.

Before the actual testing episode, allow students to listen to several minutes of the recording so they know what to expect. Students should be allowed two practice opportunities before the day of the actual test.

Organizing the Test

Assign or allow students to select a partner. Students who are performing the test form a line along the starting line.

At the signal to start, students run across the 20-meter distance and touch the line with their foot by the time the beep sounds. At the sound of the beep, they turn around and run back to the other end. If some students get to the line before the beep, they must wait for the beep before running in the other direction. Students continue in this manner until they fail to reach the line before the beep for the second time.

A single beep will sound at the end of the time for each lap. A triple beep sounds at the end of each minute. The triple beep serves the same function as the single beep and also alerts the runners that the pace is about to get faster.

For test management purposes within the time constraints of class schedules, it is suggested that the duration of the PACER test be limited to 20 minutes. Twenty minutes is sufficient time for completion of the number of laps required for the High Fitness Performance Zone Standards.

Appendix C I

Sample Score Sheet for P.A.C.E.R.

Contributed by the Physical Education Staff at Naugatuck High School

PACER Test – Score Sheet

Performer: _____ Class/Period: _____
Age: _____ Date: _____ SCORE: _____

**Draw 'X' for each completed lap, 'M' for non-completed laps.
First 'M' counts towards total, second does not.**

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	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Appendix C2

Sample P.A.C.E.R. Warm-Up and Training Activities

(Separate attachment to manual)

Appendix D

Sit-and-Reach Box Specifications

Sit-and-reach boxes are available for purchase from fitness equipment vendors, can be constructed from wood, or can be easily fashioned from readily accessible materials. Here are some flexibility testing apparatus suggestions:

1. Use a sturdy box at least 12 inches tall. A flat side of the box should be facing up. Attach a ruler to the top flat side so that the 9-inch mark is exactly parallel with the vertical plane against which the subject's foot will be placed and the zero-end is nearer the subject.
2. Use a bench that is about 12 inches wide. Turn the bench on its side. Attach a ruler to the top flat side so that the 9-inch mark is exactly parallel with the vertical plane against which the subject's foot will be placed and the zero-end is nearer the subject.

Appendix E

Using a Right-Angle Marker for the 90° Push-Up

A variety of effective methods can be implemented to illustrate the 90-degree angle to be achieved at the elbows of the test subject at the lowest point of the push-up.

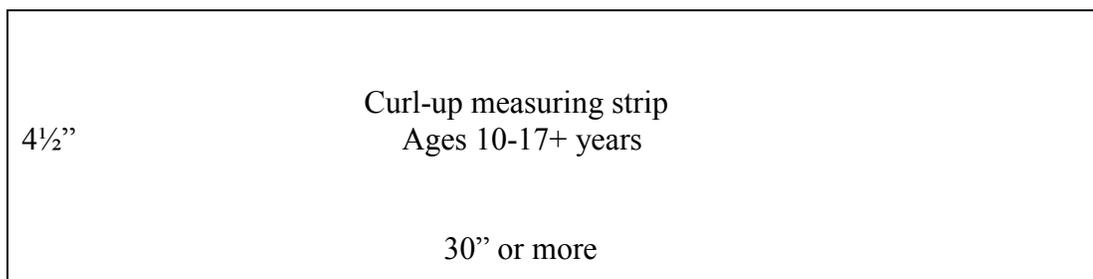
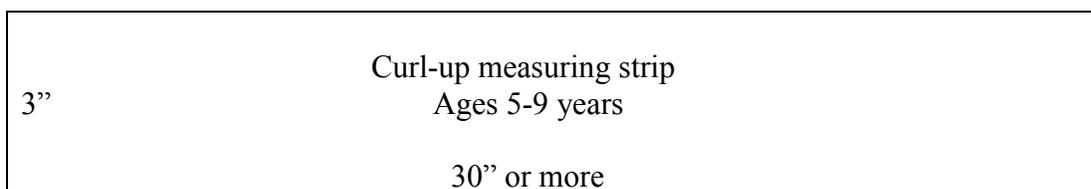
The use of a carpenter's right angle, a T-square, or simply two pieces of wood fastened together at a right angle is suggested. This device, placed upright in front of each student being tested, provides a good visual aid for the test administrator and the student. Ideally, if something can be created that slides up and down, this would allow adjustment for individual size differences.

Once the distance to which the subject should lower her/himself to achieve the 90-degree elbow-flex is determined, an object such as a cone, a soft ball or other piece of pliable equipment can be placed under the student's chest or shoulder to aid in reinforcing the appropriate 'down' level for each push-up repetition. The size and height of the equipment that is used may vary depending on the age and size of the students.

Appendix F

Curl-Up Strip Specifications

Curl-up strips can be made from cardboard, poster board, linoleum, vinyl, thick tape or any flat material that has texture sufficient for the test-taker to feel with the fingertips.



For correct performance of the curl-up, the student must move the fingers 3 inches (for ages 5-9 years) and 4½ inches (for ages 10 and above). The student should be able to feel the stopping point rather than needing to see it.

Appendix G

Developing the Audio Pacer

The curl-ups and push-ups are performed to a cadence of one complete repetition every three seconds. This is best accomplished through an audiotape or compact disc recording. The simplest way to do this is to record a metronome set at 40 beats per minute. Each click of the metronome represents the up or down phase of a curl-up or push up, (1.5 seconds up and 1.5 seconds down). In other words, two clicks represent one complete repetition.

At the beginning of the audiotape some dialogue may be included. Example: For the curl-ups; “Students take your positions, this test will begin in five seconds..., three, two, one, up, down” The use of verbal cues, “up/down,” can be helpful and included, as long as the cadence is the same. Prepare your tape well ahead of time and practice using it with your students. This will help the students to become comfortable with the pacing and scores will be more reliable.

90-degree push-up recording:

In order to score in the High Fitness Performance Zone, a minimum of 35 90-degree push-ups must be completed by 17-year-old and older boys, which takes 1 minute and forty-five seconds (1:45). So, the duration for the 90⁰ push-up recording should be at least 2 minutes, allowing for 40 push-ups. The High Fitness Performance Zone for girls’ push-ups begins at 15 push-ups.

Curl-up recording:

In order to score in the High Fitness Performance Zone, a minimum of 47 curl-ups must be completed by 17 year-old and older boys, which takes 2 minutes and twenty-one seconds (2:21). So, the duration for the curl-up recording should be at least 3 minutes, allowing for 60 push-ups. The High Fitness Performance Zone for girls’ curl-ups begins at 35 curl-ups.

Resources

Relevant Connecticut State Department of Education Curriculum, Instruction, and Assessment Publications

[Action Guide for School Nutrition and Physical Activity Policies](#)

[Connecticut's Common Core of Learning - Physical Education](#) (1998)

[Guidelines for a Coordinated Approach to School Health](#) (2007)

[Section 3: Physical Education](#) – includes Connecticut General Statutes Pertaining to Physical Education

[Healthy and Balanced Living Curriculum Framework for Physical Education](#) (2006)

[Physical Education - A Guide to K-12 Program Development](#) (2000)

[Physical Education - Test Administrator's Manual, The "Third Generation" Connecticut Physical Fitness Assessment](#)

[Position Statement on Creating a Healthy School Environment](#) – (2001) expresses the Connecticut State Board of Education's vision and goals of developing a healthy school environment

[Position Statement on Nutrition and Physical Activity](#) – (2005) expresses the Connecticut State Board of Education's vision and goals of supporting a learning environment conducive to healthy lifestyles

Physical Fitness & Physical Fitness Assessment

The Cooper Institute. Meredith, Welk, Editors. (2007). [FitnessGram / ActivityGram: Test Administration Manual, Fourth Edition](#). Champaign, IL: Human Kinetics

[Cooper Institute FitnessGram Reference Guide](#)

[The President's Challenge](#)

[Assessing and Improving Fitness in Elementary Physical Education, 2nd Edition](#)

[PE Metrics: Assessing the National Standards Standard 1 Elementary](#)

[Physical Best Health-Related Physical Fitness Program](#)

[Shape of the Nation Report](#)

[Educating the Whole Child & Reducing Childhood Obesity](#)

[Helping At-Risk Youth through Physical Fitness Programming](#)

[Teaching Health-Related Exercise at Key Stages 1 and 2](#)

[Active Start for Healthy Kids: Activities, Exercises, and Nutritional Tips](#)

Virgilio, Stephen J. [Fitness Education for Children: A Team Approach](#). Champaign, IL: Human Kinetics, 1997.

[Physical Fitness and Health: \(I Can Do It, You Can Do It\)](#) ensuring access to health care, and access to physical fitness and wellness opportunities for persons with disabilities

Miller, Patricia D. [Fitness Programming and Physical Disability](#). Champaign, IL: Human Kinetics, 1995.

Seaman, Janet A. [Physical Best and Individuals With Disabilities: A Handbook for Inclusion in Fitness Programs](#). Reston, VA: AAHPERD, 1995.

Winnick, Joseph, P. and Short, Francis X. [The Brockport Physical Fitness Test Manual, The National Health-Related Test for Youths with Physical and Mental Disabilities](#). Champaign, IL: Human Kinetics, 1999.

Organizations

[American Alliance for Health, Physical Education, Recreation and Dance](#) (AAHPERD)

Connecticut Association of Administrators of Health and Physical Education (CAAHPE)
For information, contact flanagan.dj@easthartford.org

[Connecticut Association for Health, Physical Education, Recreation and Dance](#)

[Governor's Committee on Physical Fitness](#)

[National Association of Governors' Councils on Physical Fitness and Sports](#)

[National Association for Sport and Physical Education](#) (NASPE)

[President's Challenge Youth Physical Fitness Program](#)

[The Society of State Directors of Health, Physical Education and Recreation](#)

Government and Non-Government Resources

[Centers for Disease Control and Prevention](#) The Centers for Disease Control (CDC) is the lead federal agency for protecting the health and safety of all people. Their site provides information, resources, publications, funding opportunities, data and statistics on health topics from A-Z including physical activity

[CDC-DASH Division of Adolescent Health Healthy Youth](#) Web-adapted version of the Division of Adolescent and School Health's Program At-A-Glance, and includes the most current health-related data

[Virtual Office of the Surgeon General](#) The Surgeon General's Call To Action To Prevent and Decrease Overweight and Obesity

Grants

[AAHPERD / NASPE](#) site contains information about program and research grant opportunities

[Carol M. White Physical Education Program](#) This program provides grants to initiate, expand, and improve physical education programs for K-12 students

Health and Achievement Links

[Action for Healthy Kids](#)

[Action Based Learning](#) - Brain Research makes the connections between physical activity and academic performance

Coordinated School Health Partnerships

[How Are Student Health Risks & Resilience Related to the Academic Progress of Schools?](#)

[Making the Connection: Health and Student Achievement](#)

[Society of State Directors of Health, Physical Education and Recreation \(SSDHPER\)](#)
SSDHPER Position Papers

- Resolution for Comprehensive School Health Education that addresses the health and safety of all children
- Resolution for Quality Physical Education and Physical Activity

[The Learning Connection: The Value of Improving Nutrition and Physical Activity in Our Schools](#) - Action for Healthy Kids

Curriculum and Instruction

[Creating a Healthy School Using the Healthy School Report Card](#): An ASCD Action Tool helps school communities develop health promoting schools and homes that enable, motivate, support, and reinforce student and staff adoption and practice of healthy behaviors. Schools that use the action tool will bring community and parent stakeholders together to assess how effectively they address student and staff well-being and support student academic achievement and positive behavioral outcomes.

[Health Education Curriculum Analysis Tool](#) (HECAT) Centers for Disease Control & Prevention

[Physical Education Curriculum Analysis Tool](#) (PECAT) Centers for Disease Control & Prevention. Physical Education Curriculum Analysis Tool

[Physical Education in the US: A CDC Status Report](#)

Resources for Infusing Physically Active Learning into Academic Teaching and Learning

[ABC for Fitness](#) Provides instruction for teachers to incorporate short bursts of activity at the beginning of each class; can ensure that children obtain the level of physical activity that is essential for good health and well being

[ACTIVE](#) Classroom-based physical activities that integrate physical activity with academic concepts

[Brain Breaks](#) Physical activity idea book for elementary classroom teachers to help increase physical activity in the classroom and during the school day

[Brain Gym](#) Uses movement as a means to enhance learning in classrooms and other spaces; source for making connections between academic performance and physical activity

[CircusFit](#) Program for students, families and teachers, with lessons and activities for teaching health, nutrition, fitness and circus skills; includes prompts for discussion and journaling, Ringling Bros. and Barnum & Bailey® performer testimonials and demonstrations – real-life role models whose stories and examples tell of the rewards of a physically fit lifestyle

[Coordinated Approach to Child Health](#) (C.A.T.C.H.) Coordinated school health program which builds an alliance of parents, teachers, child nutrition personnel, school staff, and community partners to teach children and their families how to be healthy for a lifetime

Physical Activity Pyramid

[VERB: CDC Youth Campaign](#) Comprising online games and interactives, blogs, educational materials, and other activities, this multicultural social marketing campaign to increase physical activity among youth is called VERB: It's what you do. Curricular materials for educators and interactive multimedia content directed at youth combine to engage and motivate tweens (ages 9 to 13), encouraging healthy lifestyles and participation in physical activity.

Parents & Community

[American Heart Association](#)

[American Diabetes Association](#)

[American Cancer Society](#)

[CircusFit for Parents](#)

[Coordinated Approach to Child Health \(CATCH\)](#)

[Alliance for a Healthier Generation](#)

Students

[CircusFit](#)

[Healthy Youth! Make a Difference at Your School!](#) Key strategies to prevent obesity