

Last Minute Memorandum

To: STATE BOARD MEMBERS

Date: 11/07/03

**From: Geno Flores, Deputy Superintendent
Assessment and Accountability Branch**

Re: ITEM # 50

Subject: Report of 2003 Physical Fitness Test (PFT) Statewide Test Results

Results of the 2003 test administration indicate the following:

- Most students at all three grade levels tested are not fit when compared to standards established for the *Fitnessgram* by the Cooper Institute for Aerobics Research. Only 25 percent of the students in the three grades achieved that goal. The small percentage of students meeting minimum requirements for physical fitness is a major concern.
- Only about half (49 to 59 percent) of the students across the three grades met the minimum standard for aerobic capacity.
- Only 65-66 percent of students across the three grades met the minimum fitness levels for body composition.

Childhood obesity, having reached epidemic proportions, is directly related to diet and physical inactivity, putting children at risk for many serious health problems usually not seen during childhood. These health problems include type II diabetes, high blood pressure, and high cholesterol levels -- all early warning signs for heart disease. Inactive children are at risk for serious health conditions many of which continue into adulthood.

Both males and females from all ethnic backgrounds could benefit from a greater emphasis in all areas of physical fitness.

In the spring of 2003, the PFT was taken by 96 percent of all fifth grade students, 92 percent of all seventh grade students, and 76 percent of all ninth grade students for a total of 1,323,058 students. This is a notable increase from 1,265,546 students tested in 2002. The increased participation rate can be attributed to:

- Availability of multiple options for reporting data electronically.
- Increases in the visibility of the PFT.
- Increases in efforts to improve physical fitness due to the growing prevalence of obesity.
- Follow-up letters mailed to schools that failed to report data in 2002.
- First year participation by Charter Schools.

Relationship to Academic Achievement

A recent statewide study provided compelling evidence that the physical well-being of students has a direct impact on their ability to achieve academically. The study

individually matched scores from the spring 2001 administration of the Stanford Achievement Test, Ninth Edition, with results of the *Fitnessgram*, given in 2001 to students in grades five, seven, and nine including 353,000 fifth graders, 322,000 seventh graders, and 279,000 ninth graders.

Key findings of the study were:

- Higher achievement was associated with higher levels of fitness at each of the three grade levels measured.
- The relationship between academic achievement and fitness was greater in mathematics than in reading, particularly at higher fitness levels.
- Students who met minimum fitness levels in three or more physical fitness areas showed the greatest gains in academic achievement at all three grade levels.
- Females demonstrated higher achievement than males, particularly at higher fitness levels.

Recommendations

Districts and schools are encouraged to use the data from this test to examine their physical education programs and plan improvements in their current programs. School administrators and teachers are also encouraged to develop physical education curriculum, which is consistent with the *California Physical Education Challenge Standards* and *California Physical Education Framework*.

Earlier this year, State Superintendent of Public Instruction, Jack O'Connell, challenged all California schools to focus on students' nutrition and physical fitness when he introduced the Superintendent's Challenge. The Challenge encourages all schools to improve the health of their students through the development and implementation of policies that promote proper nutrition and regular physical activities.

Physical Fitness Web site

The 2003 physical fitness results for schools, school districts, counties, and the state are available on the CDE Web site at <<http://www.cde.ca.gov/statetests/pe/pe.html>>. No individual student data is reported on the Internet.

[Attachment 1](#): 2003 California Physical Fitness (PFT) Test Data Tables (Pages 1-3)

[Attachment 2](#): News Release (Pages 1-2)

[Attachment 3](#): Description of Test (Pages 1-4)

2003 California Physical Fitness Test (PFT) Data Tables

Table 1: Participation by Gender

Students Tested	Grade 5		Grade 7		Grade 9	
	No.	%	No.	%	No.	%
Females	228668	49.0	224085	48.9	192579	48.5
Males	238342	51.0	234164	51.1	204692	51.5
No Gender Information	129	0.0	221	0.0	178	0.0

Table 2: Participation by Race/Ethnicity

Students Tested	Grade 5		Grade 7		Grade 9	
	No.	%	No.	%	No.	%
African/African American	36276	7.8	36387	7.9	30034	7.6
American Indian/Alaskan Native	5355	1.1	5084	1.1	4053	1.0
Asian/Asian American	34532	7.4	34726	7.6	32199	8.1
Filipino/Filipino American	11496	2.5	11906	2.6	11214	2.8
Hispanic/Latino	216808	46.4	200797	43.8	166803	42.0
Pacific Islander	6266	1.3	5942	1.3	5405	1.4
White – Not of Hispanic Origin	146838	31.4	154111	33.6	135363	34.1
Non-Response	9568	2.0	9517	2.1	12378	3.1

Table 3: Summary of Test Results for All Students

Physical Fitness Tests	Grade 5			Grade 7			Grade 9		
	Total Tested **	% in HFZ *	% Not In HFZ	Total Tested	% in HFZ	% Not In HFZ	Total Tested	% in HFZ	% Not In HFZ
Aerobic Capacity	467139	56.4	43.6	458470	58.5	41.5	397449	48.9	51.1
Body Composition	467139	65.0	35.0	458470	65.6	34.4	397449	65.4	34.6
Abdominal Strength	467139	79.5	20.5	458470	82.7	17.3	397449	79.3	20.7
Trunk Extension Strength	467139	85.6	14.4	458470	87.8	12.2	397449	81.8	18.2
Upper Body Strength	467139	64.9	35.1	458470	66.4	33.6	397449	65.5	34.5
Flexibility	467139	65.0	35.0	458470	70.7	29.3	397449	67.8	32.2

Table 4: Summary of Fitness Standards Achieved for All Students

Number of fitness standards achieved	Grade 5		Grade 7		Grade 9	
	No.	%	No.	%	No.	%
6 of 6 fitness standards	107634	23.0	124233	27.1	95660	24.1
5 of 6 fitness standards	122017	26.1	121888	26.6	102964	25.9
4 of 6 fitness standards	98014	21.0	90316	19.7	78003	19.6
3 of 6 fitness standards	67626	14.5	60578	13.2	50952	12.8
2 of 6 fitness standards	38758	8.3	33583	7.3	28321	7.1
1 of 6 fitness standards	17468	3.7	14491	3.2	14162	3.6
0 of 6 fitness standards	15622	3.3	13381	2.9	27387	6.9
Total tested:	467139	100.0	458470	100.0	397449	100.0

**Total Tested = number of students tested (includes partially tested students)

* HFZ = Healthy Fitness Zone

Table 5: Comparison of Test Results — 2002 & 2003

Physical Fitness Tests	Grade 5		Grade 7		Grade 9	
	2002 % in HFZ *	2003 % in In HFZ	2002 % in HFZ	2003 % in In HFZ	2002 % in HFZ	2003 % in HFZ
Aerobic Capacity	56.5	56.4	57.4	58.5	47.5	48.9
Body Composition	65.9	65.0	66.3	65.6	64.7	65.4
Abdominal Strength	78.1	79.5	80.7	82.7	77.7	79.3
Trunk Extension Strength	84.1	85.6	86.4	87.8	79.7	81.8
Upper Body Strength	62.5	64.9	62.2	66.4	61.1	65.5
Flexibility	63.7	65.0	69.3	70.7	65.5	67.8

Table 6: Comparison of Fitness Standards Achieved — 2002 & 2003

Number of fitness standards achieved	Grade 5		Grade 7		Grade 9	
	2002 %	2003 %	2002 %	2003 %	2002 %	2003 %
6 of 6 fitness standards	22.2	23.0	25.9	27.1	22.7	24.1
5 of 6 fitness standards	25.6	26.1	26.2	26.6	25.2	25.9
4 of 6 fitness standards	21.1	21.0	19.7	19.7	19.5	19.6
3 of 6 fitness standards	14.7	14.5	13.1	13.2	12.9	12.8
2 of 6 fitness standards	8.5	8.3	7.3	7.3	7.0	7.1
1 of 6 fitness standards	3.8	3.7	3.2	3.2	3.5	3.6
0 of 6 fitness standards	4.1	3.3	4.5	2.9	9.3	6.9

*HFZ= Healthy Fitness Zone

N CALIFORNIA DEPARTMENT OF EDUCATION
NEWS RELEASE



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**STATE SCHOOLS CHIEF O'CONNELL ANNOUNCES
2003 PHYSICAL FITNESS RESULTS FOR CALIFORNIA STUDENTS**

SACRAMENTO – State Superintendent of Public Instruction Jack O'Connell today announced results of last spring's physical fitness testing of California's students. This data represents students who were enrolled in grades five, seven, and nine in the spring of 2003, with 1,323,058 students participating. Students must meet the minimum fitness standards for all six areas of the test to be considered fit. Only 25 percent of the students in the three grades tested achieved that goal.

"These results are quite discouraging and show that the fitness level of students in California public schools remains low," said O'Connell. "The small percentage of students meeting minimum requirements for physical fitness is a major concern. Recent studies show there is compelling evidence that links physical fitness with academic achievement. Simply put, students who are physically fit appear to do better in school."

The annual *Fitnessgram* assessed six major fitness areas, including aerobic capacity (cardiovascular endurance), body composition (percent of body fat), abdominal strength and endurance, trunk strength and flexibility, upper body strength and endurance, and overall flexibility. A number of testing options were provided so that all students, including those with special needs, had the opportunity to participate (see Attachment 1 for testing option descriptions).

Results reported for each grade tested showed little difference between the grades. Twenty-three percent of the students in grade five, 27.1 percent in grade seven, and 24.1 percent in grade nine passed all of the fitness standards.

This is the fourth year for reporting physical fitness test results in California public schools, since the statewide assessment was re-established by Assembly Bill 265. The law requires that school districts administer a physical fitness test, designated by the State Board

of Education, to all fifth, seventh, and ninth graders annually. The designated test used is the *Fitnessgram*, developed by the Cooper Institute for Aerobics Research.

Senate Bill 896 (Statutes of 1998) requires the California Department of Education (CDE) to report results to the Governor and Legislature. Every public school in California is required by law to report results of physical fitness testing annually in their school accountability report cards and schools are to provide students with their individual results.

Aerobic capacity has proven to be the most important area of the six fitness areas tested. Unfortunately, it had the poorest showing. A breakdown of results for each fitness area showed that only about half (49 to 59 percent) of the students across the three grades met the minimum standard for aerobic capacity.

Earlier this year O'Connell challenged all California schools to focus on students' nutrition and physical fitness when he introduced the Superintendent's Challenge. The Challenge encourages all schools to improve the health of their students through the development and implementation of policies that promote proper nutrition and regular physical activities.

"Everyone involved in the lives of children, including schools, needs to address these important issues," O'Connell said. "Schools must look for ways to improve their physical education programs and increase physical activity at school; and families also can help by initiating more physical activity and spending less time in front of the television. We all must ensure that students are learning the lifelong skills needed to become and stay healthy."

The 2003 physical fitness results for schools, school districts, counties, and the state are available on the CDE Web site at <<http://www.cde.ca.gov/statetests/pe/pe.html>>. No individual student data is reported on the Internet.

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Attachment

Description of Test

The *Fitnessgram* was developed by the Cooper Institute for Aerobics Research in Dallas, Texas and endorsed by the American Alliance for Health, Physical Education, Recreation, and Dance. The primary goal of the *Fitnessgram* is to assist students in establishing physical activity as part of their daily lives. Because of this goal, *Fitnessgram* provides a number of options for each fitness area so that all students, including those with special needs, have the maximum opportunity to participate in the tests. Availability of options is especially important in measurement of body composition, which is the component of physical fitness that tends to concern parents the most. With an additional alternative for body composition measurement, school districts are more comfortable completing the section of the fitness test.

Physical fitness consists of three components: 1) aerobic capacity, 2) body composition, and 3) muscular strength, endurance, and flexibility. To ensure thorough measurement of all three components, the *Fitnessgram* test is made up of the following six major fitness areas with multiple performance task options for most areas:

Aerobic Capacity

- The Pacer
- One-Mile Walk/Run
- Walk Test

Body Composition

- Skinfold Measurements
- Body Mass Index

Abdominal Strength and Endurance

- Curl-Up

Trunk Extensor Strength and Flexibility

- Trunk Lift

Upper Body Strength and Endurance

- Push-Up
- Modified Pull-Up
- Pull-Up
- Flexed Arm Hang

Flexibility

- Back-Saver Sit and Reach
- Shoulder Stretch

To complete the *Fitnessgram*, students are required to participate in the following:

- One of the options from aerobic capacity
- One of the options from body composition
- The curl-up test
- The trunk lift test
- One of the options from upper body strength and endurance
- One of the options from flexibility

A brief description of major areas of the *Fitnessgram* and the performance task options are included here.

Aerobic Capacity

This is perhaps the most important indicator of physical fitness, and it assesses the capacity of the cardiorespiratory system by measuring endurance.

The Pacer (Progressive Aerobic Cardiovascular Endurance Run). This is a multi-stage fitness test set to music, which provides a valid and fun alternative to the customary distance run. It is strongly encouraged for students in kindergarten through third grade, but may be used in all grades. The objective is to run as long as possible back and forth across a 20-meter distance at a specified pace that gets faster each minute.

One-Mile Walk/Run. The objective is to walk and/or run a one-mile distance at the fastest pace possible.

Walk Test. The objective is to walk a one-mile distance as quickly as possible while maintaining a constant walking pace the entire distance. This test is for students who are 13 years and older. The score is calculated using a formula that combines the walk time (in minutes and seconds) and the heart rate taken at the end of the walk.

Body Composition

Body composition results provide an estimate of the percent of a student's weight that is fat compared to the "fat-free" body mass that comes from muscles, bones, and organs.

Skinfold Measurements. Measurements of the thickness of the skinfold on the back of the upper right arm and the inside of the right calf are taken using a device called a skinfold caliper. A formula is used to calculate percent body fat using these measurements.

Body Mass Index. This test provides an indication of a student's weight relative to his or her height. Height and weight measures are inserted into a formula to calculate the body mass index. Although not as accurate an indicator of body composition as the skinfold measurement, school districts and schools find this measurement less of a parent concern than skinfold measurements.

Abdominal Strength and Endurance

Abdominal strength and endurance are important in promoting good posture and correct pelvic alignment. Strength and endurance of the abdominal muscles are important in maintaining low back health.

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

Trunk Extensor Strength and Flexibility

This test is related to low back health and vertebral alignment.

Trunk Lift. The objective of this test is to lift the upper body a maximum of 12 inches off the floor using the muscles of the back and to hold the position long enough to allow for the measurement of the lift distance.

Upper Body Strength and Endurance

This test measures the strength and endurance of the upper body and is important in maintaining functional health and promoting good posture. It is important to have strong muscles that can work forcefully and/or over a period of time.

Push-Up. The objective of this test is to complete as many push-ups as possible at a specified pace.

Modified Pull-Up. The objective of this test is to successfully complete as many modified pull-ups as possible. The Modified Pull-Up is different from a Pull-Up in that a student performs the test by lying on his or her back directly under a bar, and grasping the bar to pull up until the chin reaches a specified level.

Pull-Up. The objective of this test is to correctly complete as many pull-ups as possible.

Flexed Arm Hang. The objective of this test is to hang by the arms with the chin above a bar as long as possible.

Flexibility

This test measures joint flexibility, which is important to functional health.

Back Saver Sit and Reach. The objective of this task is to assess the flexibility of the lower back and posterior thigh. Using a special box with a ruler attached and beginning in a sitting position with one leg extended and the other leg bent, the student extends forward to reach as far as possible on top of the box. After measuring one side, the student switches the position of the legs and reaches again. The distance reached is measured for both sides of the body.

Shoulder Stretch. This is a simple test of upper body flexibility. The student should be able to touch the fingertips together behind the back by reaching over both the right and left shoulder and under the elbow.

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