

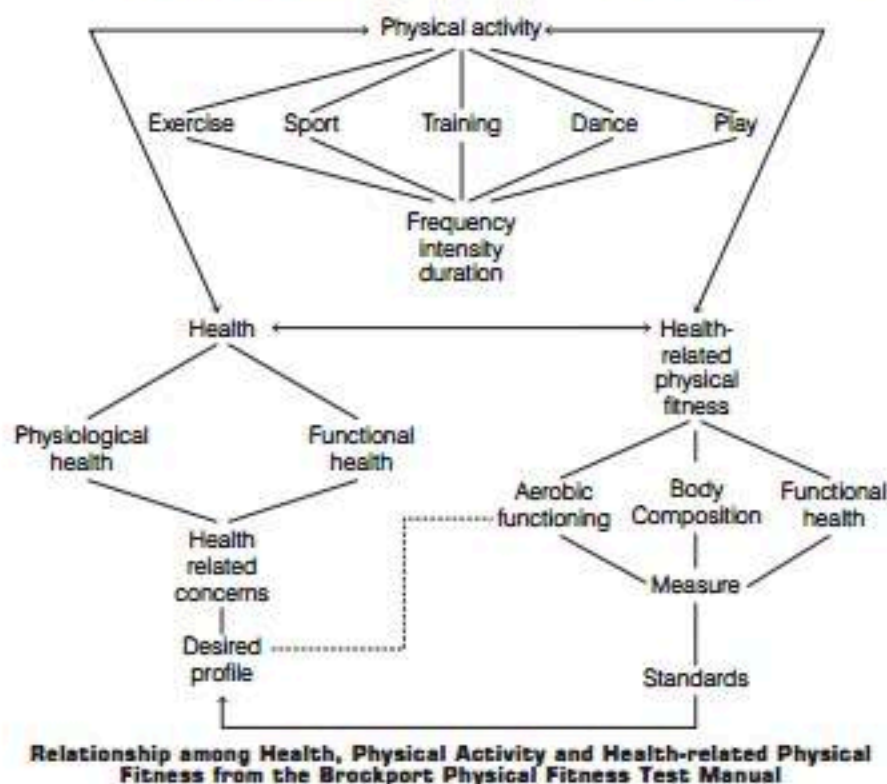
BROCKPORT PHYSICAL FITNESS TEST

The BPFT (Brockport Physical Fitness Test) is a criterion-referenced test of health-related fitness. In a criterion-referenced approach, test scores obtained by youngsters are compared to standards that are thought to be associated with some index of positive health.

This schematic, which is modified from a model described by Bouchard and Shephard (1994), helps to understand how and why test items and standards on the BPFT were selected. In this conceptual framework, health that impacts or relates to physical activity, provides the basis for indices and criteria for the evaluation of physical fitness.

Project Target

Between 1993 and 1998, the U.S. Department of Education Office of Special Education and Rehabilitative Services funded 'Project Target', a research study designed to develop a health-related, criterion-referenced physical fitness test for youngsters aged 10 to 17 with disabilities. The project was entitled 'Project Target: Criterion-Referenced Physical Fitness Standards for Adolescents with Disabilities.' Project Target was centered at the State University of the Brockport.



Target Group

The Brockport Physical Fitness Test is designed for and is suitable for use with both able-bodied youngsters and those with disabilities such as mental retardation, spinal cord injuries cerebral palsy, blindness, congenital anomalies, amputation. The BPFT includes 27 different test items under three components of health-related physical fitness, aerobic functioning, body composition and musculoskeletal functioning.

Note SAI Khelo India Test is already discussed in Chapter 6 from page 90 to 93.

Aerobic Functioning

Aerobic functioning is a term that encompasses both aerobic capacity (maximum oxygen uptake) and aerobic behaviour (the ability to perform aerobic activity at specified levels of intensity and duration).

The tests for aerobic functioning are

- **Target Aerobic Movement Test** It test the ability to sustain a moderate intensity of (any) physical activity by maintaining a heart rate between 70 and 85 percent of maximal predicted heart rate for 15 minutes.
- **One-mile Run/Walk** Run or walk as fast as possible over a one-mile distance.

Body Composition

Body composition provides an indication of the degree of leanness/fatness of the body.

The tests for body composition are

- **Skinfold Measures** Calipers are used to measure the thickness of the skin at the triceps, subscapular, and calf measurement sites.
- **Body Mass Index** It is calculated by taking a person's weight and dividing by their height squared.
- **Bioelectrical Impedance Analysis** It measure the resistance of body tissues to the flow of a small electrical signal, and from that the proportion of body fat is calculated.

Musculoskeletal Functioning

Musculoskeletal functioning is a component that combines measures of muscular strength, muscular endurance and flexibility/range of motion.

Strength/Endurance exercises and tests for musculoskeletal functioning are

- **Trunk Lift** While lying face down, lift the upper body off the floor as high as you can using the muscles of the back.
- **Grip Strength** A measure of hand and arm strength, using the dominant hand to grip a dynamometer with as much force as possible.
- **Bench Press** Perform as many bench presses as possible using a 35lb (15.9kg) barbell.
- **Isometric Push-up** Hold a raised push-up position for upto 40 seconds.
- **Push-up Complete** as many push-ups as possible at a rate of 1 push-up every 3 seconds.
- **Seated Push-up** Extend the arms and raise the body out of a chair and hold this position for as long as possible.

- **Dumbbell Press Lift** a 15lb (6.8kg) dumbbell as many times as possible at a specific cadence while sitting on a chair.
- **Reverse Curl** A measure of hand, wrist, and arm strength. While sitting on a chair, the subject must perform one repetition of bringing a 1lb (0.5kg) dumbbell from the thigh to the flexed-arm position, holding it there for 2 seconds, then returning it to the thigh in a controlled manner.
- **Push/Walk (40m)** Walk or push a wheelchair at a comfortable speed for 40 min, with a 5 min start zone. It is not a race, participants are encouraged to travel at the speed they usually use for mobility. To pass, they must cover the 40 meters distance in less than 60 seconds while keeping the heart rate below 120 bpm (walkers) or 114 bpm (wheelchair users).
- **Wheelchair Ramp Test** A test of upper-body strength and endurance, in which participants attempt to push their wheelchairs up a standard wheelchair ramp. The ramp must be at least 8 feet (2.4 meters) long, at a gradient of 8.3%.
- **Curl-Up Complete** upto 75 curl-ups at a rate of 1 every 3 seconds. The hands slide 4.5 inches along the ground for a complete repetition.
- **Curl-Up (modified)** The curl-up test, though with the hands resting on the thighs rather than by the side.
- **Extended-Arm Hang** Hanging from an overhead bar with straight arms for upto 40 seconds.
- **Pull-Up** Grasp an overhead bar and pull-up the body so the chin raises above the bar, then return to arms fully extended position.
- **Pull-Up (modified)** With the horizontal body, grasp a bar set just out of reach, and pull-up towards the bar.

Flexibility tests for musculoskeletal functioning are

- **Back-Saver Sit and Reach** It is performed with one leg bent. It is designed to measure the flexibility of the left and right legs separately.
- **Shoulder Stretch** Touch the fingertips together behind the back by reaching over the shoulder and down the back with one arm and across the back with the other arm.
- **Apley Scratch Test (modified)** Attempt to reach overhead with one hand and touch the top of the opposite shoulder blade.
- **Thomas Test (modified)** It requires the subject to sit at the very edge of a bench, then roll back onto the bench while pulling both knees to the chest. Measures hip flexibility.

General Recommendations for Administering BPFT

Although the BPFT includes 27 test items, testers generally administer only 4 to 6 items to a particular individual. The following list provides general recommendations for administering the BPFT

- Practice administering test items and be confident of mastery in administering them before taking formal measurements.
- Develop forms for selecting test items and recording scores, or use materials developed as part of the Brockport Physical Fitness Test.
- Describe the test to participants and explain what it is intended to assess.
- Ensure that individuals being tested dress appropriately, exercise clothing and sneakers (where appropriate) are recommended.
- Plan and provide general and specific warmups, as appropriate.
- Provide cool-down activities after testing. This is especially important after aerobic-functioning test items.
- Provide a positive testing atmosphere. Encourage individuals being tested to try their best and continually provide positive reinforcement for effort.
- Compare participants' performances with criterion-referenced standards rather than with other individuals' performances.
- Administer not more than half of the items on a particular day. If fatigue appears to be influencing performance, provide longer rest intervals between test items.
- Administer aerobic-functioning tests in last.
- Administer running items on a surface that is flat and hard yet resilient.
- Give participants who are blind, the opportunity to become clearly oriented to a test station or testing area. This is particularly important for tests that involve running.
- Provide careful demonstrations for participants with hearing impairment. Give instructions in writing or manually (e.g. signing, finger spelling). Use hand signals to start and stop activities.
- Administer the following test items individually to one participant at a time- Target Aerobic Movement Test (TAMT), percent body fat, skinfolds, extended-arm hang, flexed-arm hang, modified pull-up, pull-up, dominant grip strength, bench press, curl-up, modified

curl-up, 40 meter push/walk, reverse curl, seated push-up, trunk lift, wheelchair ramp test, and most flexibility or range-of-motion test items (except shoulder stretch).

- The PACER, one-mile run/walk, and shoulder stretch may be administered to small groups of subjects at once. However, it may be necessary or most appropriate to provide partners for assistance.
- The following items can be administered to groups of two or three- dumbbell press, isometric push-up, and push-up. For the dumbbell press, provide spotters.

Equipment Required For Conducting BPFT

Relatively inexpensive material are required for conducting the BPFT such as a stopwatch, ruler, grip dynamometer, 35lb, barbell, seated push-up blocks, 11lb weight, ramp, curl-up strip, pull-up bars, skinfold caliper, height weight scale, sit and reach apparatus, heart rate monitor, 15lb dumbbell and calibrated tapes.

Safety Guidelines and Precautions

Test items used in connection with the BPFT (including non-traditional ones) are typical of those used elsewhere in physical education or physical fitness programmes. Some have appeared on disability-specific tests of physical fitness or tests classifying athletes with disability or are associated with activities of daily living. Although the BPFT is considered safe, one must recognise that accidents are possible. Use the following guidelines and precautions when administering test items

- Personnel who administer the test should be qualified and knowledgeable about physical fitness testing and disability.
- Maximise the safety of all youngsters. Professionals using this test should follow the policies of their school or agency regarding medical information, records, and clearance for activity. Any others should administer this test only following approval by a physician who is aware of the health status of the individual taking the test.
- Avoid administering tests under conditions of unusually high or low temperature or humidity or when windy. Youngsters with spinal cord injury may be especially prone to problems with thermoregulation including overheating.
- Be sure that individuals being tested understand test instructions. Provide opportunities for students to practice test items.

- Terminate the test item if the individual being tested experiences dizziness, pain, or disorientation.
- Avoid comparing individuals' performances with each other.
- Spot youngsters where necessary and appropriate.
- Incorporate warm-up and cool-down periods as appropriate for test items.

General Brockport Physical Fitness Test Form

Student name: Sex: M F Age (yr):
 Height : Weight: Date:
 Classification: Subclassification:

This form identifies all test items on the Brockport Physical Fitness Test (BPFT). It can be used as a resource for developing a fitness test for a particular student, recording results, and matching results to fitness zones. The BPFT typically includes four to seven test items: one for aerobic functioning, one for body composition, and at least two for musculoskeletal functioning. (The Target Stretch Test items are considered as a single test for this purpose). It is recommended that an individualised specific test form for each student consisting only of the items taken on the test be subsequently developed for each student and be used for reporting results to students, parents, and guardians.

Aerobic Functioning

Test item	Units of measure	Test scores	Adapted fitness zone (if applicable)	Healthy fitness zone
AEROBIC CAPACITY				
Mile run or walk	min/sec			
20 m (laps)	#			
15 m (laps)	#			
AEROBIC BEHAVIOUR				
TAMT	P/F		None	

Body Composition

Test item	Units of measure	Test scores	Adapted fitness zone (if applicable)	Healthy fitness zone
Percent body fat	%		No AFZ for body composition	
Triceps	(mm)			
Triceps + subscapular	(mm)			
Triceps + calf	(mm)			
Body mass index				

Musculoskeletal Functioning

Test item	Units of measure	Test scores	Adapted fitness zone (if applicable)	Healthy fitness zone
STRENGTH AND ENDURANCE				
Reverse curl	#			
40 m push/walk	P/F			
Ramp test	feet			
Push-ups	#			
Seated push-ups	#			
Pull-ups	#			
Modified pull-ups	#			
Dumbbell press	#			
Bench press	#			

Test item	Units of measure	Test scores	Adapted fitness zone (if applicable)	Healthy fitness zone
Grip strength	kg			
Isometric push-ups	sec.			
Extended arm hang	sec.			
Flexed arm hang	sec.			
Curl-ups	#			
Modified curl-ups	#			
FLEXIBILITY OR RANGE OF MOTION				
Trunk lift	#			
Shoulder stretch, right	P/F			
Shoulder stretch, left	P/F			
Back-saver sit-and-reach, right	in.			
Back-saver sit-and-reach, left	in.			
Modified thomas test	0-3			
Modified apley test	0-3			
Target stretch test	0-2			
Wrist extension, right	0-2			
Wrist extension, left	0-2			
Elbow extension, right	0-2			
Elbow extension, left	0-2			
Shoulder extension, right	0-2			
Shoulder extension, left	0-2			
Shoulder abduction, right	0-2			
Shoulder abduction, left	0-2			
Shoulder external rotation, right	0-2			
Shoulder external rotation, left	0-2			
Forearm supination, right	0-2			
Forearm supination, left	0-2			
Forearm pronation, right	0-2			
Forearm pronation, left	0-2			
Knee extension, right	0-2			
Knee extension, left	0-2			

Interpretation :

Needs :

VIVA-VOCE

1 What is test?

Ans The process of collecting the data about a specific skill, strength, endurance, knowledge and behaviour is generally known as test.

2 What is measurement?

Ans The process of administering a test in order to obtain a quantitative data is called as measurement.

3 What is BPFT?

Ans The Brockport Physical Fitness Test (BPFT) is a criterion-referenced test of health-related fitness test.

4 How many tests have been included in the BPFT?

Ans 27 tests have been included in the BPFT.

5 How many components of health have been included in BPFT?

Ans There are 3 components of health related to physical fitness have been included in BPFT.

6 Which type of indication provided by the body composition test in BPFT.

Ans Body composition provides an indication of the degree of leanness/fatness of the body.

7 Which type of test is done for measure of muscular strength in Brockport Physical Fitness Test (BPFT)?

Ans Musculoskeletal functioning is a component of BPFT that combine measures of muscular strength, muscular endurance and flexibility range of motion.

8 Who has modified Brockport Physical Fitness Test?

Ans Bouchard and Shephard modified the Brockport Physical Fitness Test.

9 Who has conducted the Project Target?

Ans The U.S. Department of Education Office of Special Education and Rehabilitative Service has funded and conducted the Project Target.

10 Does expensive material required for administering BPFT?

Ans No, relatively inexpensive material are required for conducting the BPFT.

11 What does AAHPERD stands for?

Ans AAHPERD stands for American Alliance for Health, Physical Education, Recreation and Dance.

12 For which purpose, partial curl-up test is used?

Ans The strength and endurance of abdominal muscles is measured with the help of curl-up test.

13 Which test is also called as Harvard Step?

Ans Aerobic fitness test is also called as Harvard Step.