

Health-Related Physical Fitness**Mr. Jayavant K. Shimpi:** SES College of Physical Education, Jalgaon**Introduction:**

According to AAHPERD (American Alliance of Health, Physical Education, Recreation and Dance), Health Related Physical Fitness can be viewed as, "Physical fitness is a multifaceted continuum extending from birth to death. Affected by physical activity, it ranges from optimal abilities in all aspects of life through high and low levels of different physical fitness, to severely limiting disease and dysfunction."

Health-related fitness education is an important component of a physical education program. A well-designed fitness assessment process provides students, teachers, and parents with the necessary information to design an individualized program of fitness for each student. The sequential program of physical fitness instruction in Virginia is based on the personal fitness strand in the Standards of Learning that focuses student learning on achievement of a health-enhancing level of physical fitness. Students who participate in effective physical fitness programs will be more likely to develop lifelong habits that promote health and learning. The Virginia Standards of Learning personal fitness goal for elementary students is to become aware of health-related fitness components (cardio respiratory endurance, body composition and muscular endurance, strength and flexibility) while engaging in a variety of physical activities.

Need of Fitness In School:

The Standards of Learning personal fitness goal for middle school students is to continue to learn more about the components of fitness, how they are developed and improved, how they interrelate, and how they contribute to overall fitness.

While in high school, students plan, implement, evaluate, and modify a personal goal-driven fitness plan that enables them to achieve and maintain a level of fitness that allows them to meet their personal goals for various work-related, sport, and leisure activities.

A Unit of Fitness Includes:

- Instruction on activities and fitness concepts.
- Student participation in conditioning activities.
- Instruction on test items.
- Assessment of fitness levels.
- Planning individualized fitness programs and setting goals.
- Promoting and tracking physical activity.
- Reassessment of fitness levels.

The Virginia fitness testing program provides basic health-related fitness assessments to help students identify areas of fitness that are directly linked to overall quality of life. Health-related fitness includes the five major components of fitness directly related to improvement of health.

Components of Fitness:

1. Cardiorespiratory Endurance --- the ability of the blood vessels, heart and lungs to take in, transport, and utilize oxygen. This is a critically important component of fitness because it impacts other components of fitness and decreases the risk of cardiovascular diseases.
2. Muscular Strength --- the maximum amount of force a muscle or muscle groups can exert.
3. Muscular Endurance --- the length of time a muscle or muscle group can exert force prior to fatigue.
4. Flexibility --- the range of motion in the joints.
5. Body Composition --- the amount of fat versus lean mass (bone, muscle,

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Connective tissue and fluids). While some fat is essential for insulation and providing energy, too much fat can cause serious health problems. In addition to improving quality of life, health-related fitness:

- increases muscle tone and strength;
- decreases susceptibility to injuries and illness;
- improves bone mineral density;
- reduces risk of osteoporosis;
- improves posture;
- increases efficiency of the respiratory and circulatory systems;
- decreases risk of cardiovascular disease and stroke;
- improves blood pressure;
- decreases risk of diabetes and some cancers;
- improves self-esteem and self-confidence;
- decreases body fat and improves metabolism; and
- increases energy level and academic achievement.

Significance of Fitness:

Fit students feel better, look better, have more energy and are better learners. Physical education programs in Virginia provide students with the essential knowledge and skills to design a basic exercise prescription for improving each component of health-related fitness. This fitness plan includes Frequency, Intensity, Time and Type of exercise, also referred to as the "F.I.T.T. Formula".

In addition, students study key training principles to improve health-related fitness. These include the principles of overload, progression, specificity, reversibility, and individuality. Physical education students will also learn to apply the skill-related physical fitness components of agility, balance, coordination, reaction time, speed and power for successful execution of sports-related skills. Physically educated students in Virginia have the basic health literacy to be empowered to continue a personal fitness program for a lifetime. Virginia and many other states have used the Cooper Institute FITNESSGRAM® standards as the state-designated fitness test for the last few decades. The Fitness Gram's® criterion-referenced science-based approach identifies the physical fitness test items that assess the important aspects of a student's health-related fitness. They evaluate functional fitness not "athletic" fitness levels. On the Cooper Institute FITNESSGRAM® tests, students are NOT compared to each other, but to health-related fitness standards established for each age and gender that indicate good health.

The Cooper Institute's scientific research and validation work conducted over many years have refined these standards and have yielded a few changes in 2006 to the fitness area tests, the Healthy Fitness Zones (HFZs), and the data reporting requirements.

Recommended Tests:

The following five health-related fitness tests are the recommended.

- The Pacer,
- Abdominal Strength Curl-up,
- Trunk Lift,
- 90 degree push up, and
- Flexibility.

NOTE: Body composition testing (skinfold or BMI) are optional.

Aerobic Capacity (select one)

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- The PACER - a 20 meter progressive, multi-stage shuttle run set to music (it is now also available in a 15 meter distance). (recommended)
- Walk Test - for students ages 13 or older (recommended)
- One Mile Walk/Run (option)

Aerobic capacity is the most important area of any fitness program. The PACER, Walk Test and the Mile Walk/Run provide estimates of VO₂max, so direct comparisons can be made between the results of these tests. If you are not administering all the tests, the PACER is one of the recommended tests because students are more likely to have a positive experience, and students who have a poorer performance will finish first and not be subject to the embarrassment of being the last person to finish the test. The other recommended test is the Walk Test because it is an assessment that can be used for a lifetime. Secondary students should learn about this assessment since it is one they can repeat on their own to self-assess their fitness levels.

Muscle Strength, Endurance, and Flexibility

- Abdominal Strength Curl-up Test - measures strength and endurance of Abdominal muscles (recommended test)
- Trunk Lift - measures trunk extensor strength and flexibility - for low back health and proper vertebral alignment (recommended test)

Upper Body Strength (select one)

- 90 degree Push-up - strength and endurance of muscles in the upper body are important in activities of daily living and promoting good posture (recommended)
- Flexed Arm Hang (option)
- Modified Pull-up (option)

Flexibility (select one)

- Back-saver Sit-and-reach
- Shoulder Stretch

Tests of muscular strength, muscular endurance, and flexibility have been combined into one broad fitness category to determine the functional health status of the musculoskeletal system. It is equally important to have strong muscles that can work forcefully over a period of time that are flexible enough to allow full range of motion at the joint.

Body Composition (may select one option)

- Percent body fat (Skinfold Measurement is the recommended test)
- Body mass index (option)

Analysis:

Data indicate that obesity among children is on the increase. Obesity is present when total body weight is more than 25 percent fat in boys and more than 32 percent fat in girls. Although childhood obesity is often defined as a weight-for height in excess of 120 percent of the ideal, skinfold measures are more accurate determinants of fatness. Obesity presents numerous problems for the child. In addition to negatively impacting learning and increasing the risk of obesity in adulthood, childhood obesity is the leading cause of pediatric hypertension, is associated with Type II diabetes mellitus, increases the risk of coronary heart disease, increases stress on the weight-bearing joints, lowers self-esteem, and affects grades and relationships with peers. Some authorities feel that social and psychological problems are the most significant consequences of obesity in children.

Inappropriate Uses of Fitness Testing

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Grading students on their fitness performance may be holding them accountable for accomplishments beyond their control and is **NOT recommended**. Fitness capacity, like blood cholesterol, is largely determined by genetics. Changes in body fatness and body size have major effects on fitness test performance. During periods of rapid maturational change, children may experience an increase or decrease in their abilities to perform on certain tests completely independent of their levels of physical activity. Posting the test results for other students to see can create an embarrassing situation that does little to foster positive attitude toward activity and fitness. Grading students on their understanding of fitness concepts, what the tests measure, designing a personalized fitness program and types of fitness enhancing activities are appropriate measures of student learning. Students make choices that impact their health. Students who understand and value good nutrition and physical fitness will be more likely to make better choices and develop lifelong habits that maximize health. Promoting physical fitness is only one part of a quality physical education program. Teaching physical skills, cooperative skills, and health maintenance skills are equally important objectives for promoting lifelong physical activity.

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