



#9743

MUSCLE FITNESS

HUMAN KINETICS, 2002

Grade Levels: 7-12

25 minutes

2 Instructional Graphics Enclosed

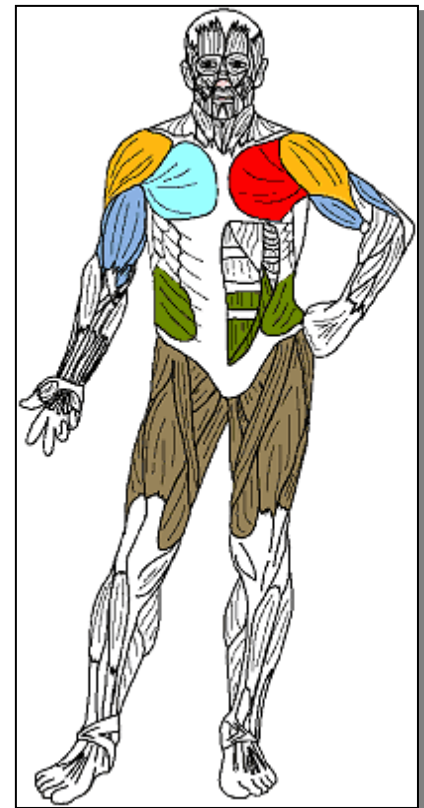
DESCRIPTION

Defines muscular fitness and related terminology. After covering how to assess muscular fitness, demonstrates various examples for improving it. Warns against using steroids and other supplements to build muscle. Concludes with how to do a workout.

ACADEMIC STANDARDS

Subject Area: Physical Education

- ★ Standard: Understands the benefits and costs associated with participation in physical activity
 - Benchmark: Understands long-term physiological benefits of regular participation in physical activity (e.g., improved cardiovascular and muscular strength, improved flexibility and body composition) (See Instructional Goal #1.)
- ★ Standard: Understands how to monitor and maintain a health-enhancing level of physical fitness
 - Benchmark: Engages in more advanced activities that develop and maintain muscular strength and endurance (e.g., calisthenics activities, resistance, and weight training) (See Instructional Goal #2.)
 - Benchmark: Understands basic principles of training that improve physical fitness (e.g., threshold, overload, specificity, frequency, intensity, duration, and mode of exercise) (See Instructional Goals #1, 2, and 3.)
 - Benchmark: Knows how to interpret the results of physical fitness assessments and use the information to develop individual fitness goals (See Instructional Goals #2 and 3.)
 - Benchmark: Knows personal status of muscular strength and endurance of the arms, shoulders, abdomen, back, and legs (See Instructional Goals #2 and 3.)



INSTRUCTIONAL GOALS

1. To understand the importance of muscular fitness in being physically fit.
2. To perform exercises for assessing and developing muscular strength of different muscles.

- To design a personal workout program that incorporates development of strength and endurance of different muscle groups.

BACKGROUND INFORMATION

This video is part of a series -- Chuck Corbin's Fitness for Life. Other videos in the series individually address the four health-related parts of fitness: body composition, cardiovascular fitness, muscular fitness, and flexibility. The *Introduction to Lifelong Physical Fitness* video gives an overview of all the components. *Muscle Fitness* refers to a fitnessgram program that is commercially available. Number nine in the after showing discussion questions refers to this program.

VOCABULARY

- | | |
|---------------------------------|---------------------------|
| 1. anabolic steroids | 11. hormones |
| 2. barbells | 12. intensity |
| 3. contaminated | 13. muscle boundness |
| 4. dynamometer | 14. muscle fitness |
| 5. endurance | 15. overload principle |
| 6. enhance (muscle development) | 16. plyometric exercises |
| 7. fatigue | 17. progression principle |
| 8. food supplement | 18. protein powders |
| 9. free weights vs. machines | 19. quack products |
| 10. grip strength | 20. self-assessment |

BEFORE SHOWING

- Define muscle fitness. Brainstorm benefits, measurements, and development of strength and endurance.
- Preview After Showing Discussion questions.

DURING SHOWING

- View the video more than once, with one showing uninterrupted.
- Pause the video for discussion at the following on-screen titles:
 - What is Muscle Fitness?
 - A Word of Warning
- Pause the video for discussion after the following sections:
 - steroids and food supplements
 - sets and reps
 - the basic principles of muscle fitness development
 - the FIT Formula application
 - basic types of exercises
 - a sample workout program
 - tips to follow during a workout



AFTER SHOWING

► Discussion Items and Questions

1. What is muscle fitness? What are the two parts of muscle fitness?
2. How does strength differ from muscular endurance?
3. What are some of the benefits of good muscle fitness?
4. What are anabolic steroids? What are some of the dangers associated with using steroids?
5. What is androstendione? What are some dangers associated with using andro.
6. What is creatine? What do experts have to say about creatine?
7. What does 1RM mean? How you can use 1RM in self-assessment?
8. What is a dynamometer? How is it used?
9. How do you perform the FITNESSGRAM curl up test properly? How do you perform the FITNESSGRAM push up test properly?
10. What is meant by the term *sets*? How is it used in muscle fitness training? What is meant by the term *reps*? How is it used in muscle fitness training?
11. What does PRE stand for?
12. What are the basic principles that should be followed in doing muscle fitness development? How is each principle used in progressive resistance exercise?
13. Discuss planning for the two parts of muscle fitness.
 - a. What is the best frequency of exercise for planning the two parts of muscle fitness?
 - b. How do you determine intensity of exercise for implementing the two parts of muscle fitness?
 - c. How much time should be spent in each exercise session to build the two parts of muscle fitness?
14. What is the difference between isotonic and isometric exercise?
15. What are isokinetic and plyometric exercises?
16. What are the advantages and disadvantages of weights versus resistance machines?
17. What is circuit training? What are some advantages of this type of training?
18. What are some of the good exercises for different muscle groups?
19. What are some good safety tips for following muscle fitness exercises?

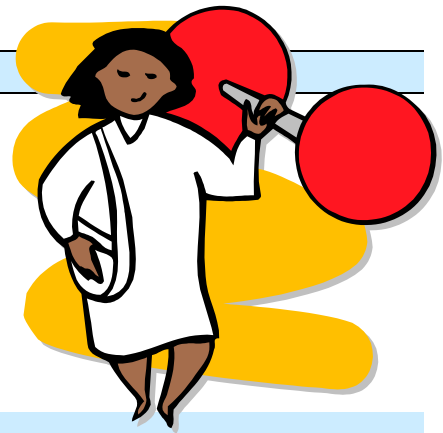
► Applications and Activities

1. Complete the "Fitness Terms Matching Activity". (See Instructional Graphics.)
2. Make a list of favorite recreational activities and the fitness benefits that they give. (e.g., bowling – developing upper body strength)
3. Determine 1RM (one repetition maximum) for various exercises using resistance machine weights and/or free weights available in your gym. Calculate training weight range by following the formula in the video:
 - a. Range for Strength Training = $1RM \times 60\%$ and $1RM \times 75\%$
 - b. Range for Endurance Training = $1RM \times 20\%$ and $1RM \times 55\%$
4. Begin a workout program incorporating exercises for different muscle groups. (See Instructional Graphics.)
5. Create a home exercise program using things that are already in your house (i.e. stairs, a chair, milk jugs filled with water). Include exercises that require no equipment at all (i.e. push-ups, squats, calf raises).

RELATED RESOURCES



- [Body Composition #9628](#)
- [Cardiovascular Fitness #9629](#)
- [Introduction to Lifelong Physical Fitness #9632](#)
- [Flexibility #9742](#)



World Wide Web

The following Web sites complement the contents of this guide; they were selected by professionals who have experience in teaching deaf and hard of hearing students. Every effort was made to select accurate, educationally relevant, and "kid safe" sites. However, teachers should preview them before use. The U.S. Department of Education, the National Association of the Deaf, and the Captioned Media Program do not endorse the sites and are not responsible for their content.

• THE PRESIDENT'S COUNCIL ON PHYSICAL FITNESS AND SPORTS

<http://www.fitness.gov/index.html>

Describes the goals of the President's Challenge and provides links to resources for coaches and teachers as well as tips for students on keeping fit.

• AMERICAN HEART ASSOCIATION

<http://www.americanheart.org>

Gives information about upcoming local activities such as American Heart Walks, fundraisers that can be done by students such as Hoops For Heart, and provides links to many resources and articles relating to heart disease and fitness tips.

• BENJAMIN CUMMINGS FITNESS & WELLNESS WEB SITE

<http://www.aw.com/fitness/index.html>

This site is full of information, tips, and activities that relate to all the components of physical fitness.

INSTRUCTIONAL GRAPHICS

- FITNESS TERMS MATCHING ACTIVITY
- WORKOUT LOG



Fitness Terms Matching Activity

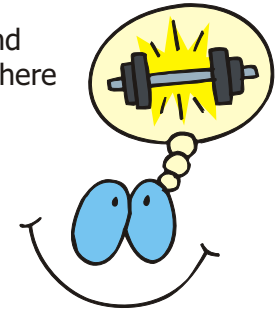


Match the terms on the left with the correct definition in the right column.

1.	muscular strength	A) Refers to exercising specific muscles to build those muscles
2.	muscular endurance	B) Static exercises where the muscles contract but the body parts don't move; require very little equipment and can be done almost anywhere
3.	cardiovascular fitness	C) Exercises in which the muscle shortens or lengthens during an exercise; include lifting weights, using resistance machines, or doing calisthenics
4.	1RM	D) A measure of the amount of external force that a muscle or group of muscles can exert
5.	dynamometer	E) A type of training that requires you to gradually increase the resistance of the exercise to become stronger
6.	reps	F) The ability to supply oxygen to the muscles during an activity
7.	sets	G) Strength training that includes lifting weights or using exercise machines
8.	progressive resistance exercise	H) The frequency, intensity, and time followed when creating a training program
9.	principle of overload	I) The ability to move the muscles many times without getting tired
10.	principle of progression	J) Exercise program primarily used by athletes training for explosive power; often consist of consecutive hops or jumps; generally not recommended for beginners because of the higher risk of injury
11.	principle of specificity	K) Several repetitions done at one time without a rest in-between
12.	FIT formula	L) Device used to measure your grip strength
13.	isometric exercises	M) Exercises used to test muscular endurance, such as curl-ups and the 90-degree push-ups
14.	isotonic exercises	N) Type of training in which you typically perform five to ten exercises at different exercise stations; you move from one station to another with little rest between them
15.	isokinetic exercises	O) Refers to gradually increasing the number of reps and sets you do or the amount of weight you lift
16.	plyometric exercises	P) Refers to lifting a weight or overcoming a resistance that is above and beyond what you normally do
17.	resistance training	Q) Exercise program that generally includes a warm-up, eight to ten exercises, and a cooldown
18.	circuit resistance training	R) Isotonic exercises which involve movement but require special exercise machines that ensure that the speed of the exercised body part is constant and that the resistance remains constant throughout the full range of motion
19.	calisthenics	S) Repeating an exercise several times
20.	work out	T) The amount of weight you can lift one time (one repetition maximum)



Directions: Find 1RM for Biceps Curl, Lying Arm Press, Leg Extensions, and Hamstring Curl. Record the date, number of sets, reps, and the weight (where applicable) for each of the exercises listed in the left column.



St/Rp/Wt = Sets, Reps, and Weight
 Example: 2/6/80 = 2 sets of 6 reps each with 80 pounds

Date	Calculate for Training Goals			St/Rp/Wt	St/Rp/Wt	St/Rp/Wt	St/Rp/Wt	St/Rp/Wt
	1RM (1 repetition maximum)	Strength Training 1RM x 60% to 75%	Endurance Training 1RM x 20% to 55%					
EXERCISE								
Biceps Curl (exercise for front arm)								
Push Up (exercise for back arm)								
Overhead Isometric Press (exercise for shoulders)								
Lying Arm Press (exercise for chest muscles)								
Curl Up (exercise for abdominal muscles)								
Trunk Lift (exercise for back muscles)								
Side Leg Raises (exercise for hip area muscles)								
Leg Extensions (exercise for back upper leg muscles)								
Hamstring Curl (exercise for front upper leg muscles)								
Heel Raise (exercise for lower leg muscles)								