

## Performance Objective 9: Physical Fitness, Health, and First Aid

### Enabling Objectives:

1. Discuss the components of physical fitness.
2. Develop and use a personal workout plan.
3. Measure Your Resting and Target Heart Rates.
4. Determine what factor causes weight loss and gain.
5. Earn the Young Marine CPR and Advance First Aid Ribbon Award.

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### Review

#### 1. Safety.

- a. Know your limits—Select and participate in physical activities that you are ready for—in skill, fitness level, and knowledge of the rules. Avoid pushing yourself to a point where you cannot back-out safely—e.g. half way up a rock face is not the point to suddenly decide you cannot continue.
- b. Prepare—it is good to wait 2-3 hours after a meal before starting a physical activity. Drink water (up to 8 cups a day for the average person), and warm up properly before physical activity. Keep in mind weather, safety equipment and your personal goals when planning to participate.
- c. Hot and cold weather—Reduce the intensity of your workouts and drink more fluids than usual (as you will dehydrate faster) during hot or cold weather. Dress appropriately for the weather—remember wind chill! Avoid strenuous activity above 30°C or below -20°C.

#### 2. Warm-up.

5-10 minutes of exercise such as walking, slow jogging, knee lifts, arm circles or trunk rotations. Low intensity movements that simulate movements to be used in the activity can also be included in the warm-up.

#### 3. Cool-down.

A minimum of 5-10 minutes of slow walking, low-level exercise, combined with stretching.

### E.O. 1. Discuss the Components of Personal Fitness.

Time Needed Depends on Effort				
Very Light Effort	Light Effort 60 minutes	Moderate Effort 30-60 minutes	Vigorous Effort 20-30 minutes	Maximum Effort
<ul style="list-style-type: none"><li>• Strolling</li><li>• Dusting</li></ul>	<ul style="list-style-type: none"><li>• Light walking</li><li>• Volleyball</li><li>• Easy gardening</li><li>• Stretching</li></ul>	<ul style="list-style-type: none"><li>• Brisk walking</li><li>• Biking</li><li>• Raking leaves</li><li>• Swimming</li><li>• Dancing</li><li>• Water aerobics</li></ul>	<ul style="list-style-type: none"><li>• Aerobic</li><li>• Jogging</li><li>• Hockey</li><li>• Basketball</li><li>• Fast swimming</li><li>• Fast dancing</li></ul>	<ul style="list-style-type: none"><li>• Sprinting</li><li>• Racing</li></ul>
	How does it feel? How warm am I? What is my breathing like?			

<ul style="list-style-type: none"> <li>• No change from rest state</li> <li>• Normal breathing</li> </ul>	<ul style="list-style-type: none"> <li>• Starting to feel warm</li> <li>• Slight increase in breathing rate</li> </ul>	<ul style="list-style-type: none"> <li>• Warmer</li> <li>• Greater increase in breathing rate</li> </ul>	<ul style="list-style-type: none"> <li>• Quite warm</li> <li>• More out of breath</li> </ul>	<ul style="list-style-type: none"> <li>• Very hot/ perspiring heavily</li> <li>• Completely out of breath</li> </ul>
<b>Range needed to stay healthy</b>				

1. Activity.

2. Endurance Activities. This type of activity helps your heart, lungs and circulatory system stay healthy and give you more energy. They range from walking and household chores to organized exercise programs and recreational sports.

3. Flexibility Activities. This type of activity helps your muscles and bones stay strong, improve your posture and help to prevent diseases like osteoporosis. Strength activities are those that make you work your muscles against some kind of resistance, like when you push or pull hard to open a heavy door.

4. Increasing your Physical Fitness. Physical activities that increase your fitness are designed around these guidelines.

- a. Progression—the principle of progressive overload—increase the demands of an activity (duration and intensity) gradually over a period of time;
- b. Specificity—the effects of activity are specific to the types of training done: running improves aerobic fitness; medicine ball exercises improve coordination, agility, and strength; and so on;
- c. Consistency—it is important to exercise regularly. Studies show that, for fitness improvement, three times a week is twice as good as two times a week; and,
- d. Flexibility—Inclement weather (heat and humidity or extreme cold), facility conflicts, or other factors may cause you to miss or modify sessions. Try to stick to a routine, but be flexible and improvise whenever necessary.
- e. Sticking with it:
  - 1) Train with a friend or listen to music;
  - 2) Record your workouts and progression on a daily chart;
  - 3) Vary your routine; and,
  - 4) Challenge yourself to do better.

5. Variety. Participate in as much physical activity as your schedule allows; team sports, personal fitness training, pastimes, or simply being active in everyday activities—walk to school, take the stairs, etc. Even if you are specializing in one sport, studies show that risk of repetitive injuries decrease, and overall development increases when activities are varied. Allow your body sufficient time in between sessions and activities to recover. Never continue when you are injured.

- a. Walking, jogging, and hiking--
- b. Cycling and stationary cycling--
- c. Swimming--
- d. Self-defense--
- e. Rope skipping and calisthenics--
- f. Cross-country skiing, skating and snow shoeing

## **E.O. 2 Develop and use a personal workout plan**

1. Plan Your Workout. How often, how long and how hard you exercise, and what kinds of exercises you do should be determined by what you are trying to accomplish. Your goals, your present fitness level, age, health, skills, interest and convenience are among the factors you should consider. For example, an athlete training for high-level competition would follow a different program than a person whose goals are good health and the ability to meet work and recreational needs.
  - a. Your exercise program should include something from each of the four basic fitness components described previously. Each workout should begin with a warm-up and end with a cool down. As a general rule, space your workouts throughout the week and avoid consecutive days of hard exercise.
  - b. Here are the amounts of activity necessary for the average healthy person to maintain a minimum level of overall fitness. Included are some of the popular exercises for each category:
    - 1) **WARMUP** - 5-10 minutes of exercise such as walking, slow jogging, knee lifts, arm circles or trunk rotations. Low intensity movements that simulate movements to be used in the activity can also be included in the warm-up.
    - 2) **MUSCULAR STRENGTH** - a minimum of two 20-minute sessions per week that include exercises for the entire major muscle groups. Lifting weights is the most effective way to increase strength.
    - 3) **MUSCULAR ENDURANCE** - at least three 30-minute sessions each week that include exercises such as calisthenics, pushups, sit-ups, pull-ups, and weight training for all the major muscle groups.

- 4) **CARDIORESPIRATORY ENDURANCE** - at least three 20-minute workouts of continuous aerobic (activity requiring oxygen) rhythmic exercise each week. Popular aerobic conditioning activities include brisk walking, jogging, swimming, cycling, rope jumping, rowing, cross-country skiing, and some continuous action games like racquetball and handball.
- 5) **FLEXIBILITY** - 10-12 minutes of daily stretching exercises performed slowly, without a bouncing motion. This can be included after a warm-up or during a cool down.
- 6) **COOL DOWN** - a minimum of 5-10 minutes of slow walking, low-level exercise, combined with stretching.

c. Selecting Exercises. The keys to selecting the right kinds of exercises for developing and maintaining each of the basic components of fitness are found in these principles:

- 1) **SPECIFICITY** - pick the right kind of activities to affect each component. Strength training results in specific strength changes. Also, train for the specific activity you're interested in. For example, optimal swimming performance is best achieved when the muscles involved in swimming are trained for the movements required. It does not necessarily follow that a good runner is a good swimmer.
- 2) **OVERLOAD** - work hard enough, at levels that are vigorous and long enough to overload your body above its resting level, to bring about improvement.
- 3) **REGULARITY** - you can't hoard physical fitness. At least three balanced workouts a week are necessary to maintain a desirable level of fitness.
- 4) **PROGRESSION** - increase the intensity, frequency and/or duration of activity over periods of time in order to improve.

Some activities can be used to fulfill more than one of your basic exercise requirements. For example, in addition to increasing cardio respiratory endurance, running builds muscular endurance in the legs and swimming develops the arm, shoulder and chest muscles. If you select the proper activities, it is possible to fit parts of your muscular endurance workout into your cardio respiratory workout and save time.

d. Scheduling Your Workout.

- 1) The hour just before the evening meal is a popular time for exercise. The late afternoon workout provides a welcome change of pace at the end of a school day and helps dissolve the day's worries and tensions.
- 2) Another popular time to work out is early morning, before the school day begins. Some supporters of the early start say it makes them more alert and energetic during the day.
- 3) Among the factors you should consider in developing your workout schedule are personal preference, school, and family responsibilities, availability of exercise facilities and weather. Its important to schedule your workouts for a time when there is little chance that you will have to cancel or interrupt them because of other demands on your time.

You should not exercise strenuously during extremely hot, humid weather or within two hours after eating. Heat and/or digestion both make heavy demands on the circulatory system, and in combination with exercise can be an overtaxing double load.

### **E.O. 3 Measure Your Resting and Target Heart Rates.**

1. Heart Rate. The heart rate is widely accepted as a good method for measuring intensity during running, swimming, cycling, and other aerobic activities. Exercise that doesn't raise your heart rate to a certain level and keep it there for 20 minutes won't contribute significantly to cardiovascular fitness.
  - a. Resting Heart Rate. Resting heart rate should be determined by taking your pulse after sitting quietly for five minutes. When checking heart rate during a workout, take your pulse within five seconds after interrupting exercise because it starts to go down once you stop moving. Count pulse for 10 seconds and multiply by six to get the per-minute rate.
  - b. Target Heart Rate. The heart rate you should maintain is called your target heart rate. There are several ways of arriving at this figure.
    - 1) One of the simplest is: maximum heart rate  $(220 - \text{age}) \times 70\%$ . Thus, the target heart rate for a 12 year-old would be 145.
    - 2) Other methods for figuring the target rate take individual differences into consideration. Here is one of them:
      - a. Subtract age from 220 to find maximum heart rate.
      - b. Subtract resting heart rate from maximum heart rate to determine heart rate reserve.
      - c. Take 70% of heart rate reserve to determine heart rate raise.
      - d. Add heart rate raise to resting heart rate to find target rate.
  - c. Proper Clothing.
    - 1) All exercise clothing should be loose-fitting to permit freedom of movement, and should make the wearer feel comfortable and self-assured.
    - 2) As a general rule, you should wear lighter clothes than temperatures might indicate. Exercise generates great amounts of body heat. Light-colored clothing that reflects the sun's rays is cooler in the summer, and dark clothes are warmer in winter. When the weather is very cold, it's better to wear several layers of light clothing than one or two heavy layers. The extra layers help trap heat, and it's easy to shed one of them if you become too warm.
    - 3) In cold weather, and in hot, sunny weather, it's a good idea to wear something on your head. Wool watch or ski caps are recommended for winter wears, and some form of cover (hat) that provides shade and can be soaked in water is good for summer.

- 4) Never wear rubberized or plastic clothing, such garments interfere with the evaporation of perspiration and can cause body temperature to rise to dangerous levels.

The most important item of equipment for the runner is a pair of sturdy, properly fitting running shoes. Training shoes with heavy, cushioned soles and arch supports are preferable to flimsy sneakers and light racing flats.

#### **E.O. 4 Determine what factor causes weight loss and gain.**

##### 1. Controlling Your Weight.

- a. The key to weight control is keeping energy intake (food) and energy output (physical activity) in balance. When you consume only as many calories as your body needs, your weight will usually remain constant. If you take in more calories than your body needs, you will put on excess fat. If you expend more energy than you take in you will burn excess fat.
- b. Exercise plays an important role in weight control by increasing energy output, calling on stored calories for extra fuel. Recent studies show that not only does exercise increase metabolism during a workout, but it causes your metabolism to stay increased for a period of time after exercising, allowing you to burn more calories.
- c. How much exercise is needed to make a difference in your weight depends on the amount and type of activity, and on how much you eat. Aerobic exercise burns body fat. A medium-sized adult would have to walk more than 30 miles to burn up 3,500 calories, the equivalent of one pound of fat. Although that may seem like a lot, you don't have to walk the 30 miles all at once. Walking a mile a day for 30 days will achieve the same result, providing you don't increase your food intake to negate the effects of walking.
- d. If you consume 100 calories a day more than your body needs, you will gain approximately 10 pounds in a year. You could take that weight off, or keep it off, by doing 30 minutes of moderate exercise daily. The combination of exercise and diet offers the most flexible and effective approach to weight control.
- e. Since muscle tissue weighs more than fat tissue, and exercise develops muscle to a certain degree, your bathroom scale won't necessarily tell you whether or not you are "fat." Well-muscled individuals, with relatively little body fat, invariably are "overweight" according to standard weight charts. If you are doing a regular program of strength training, your muscles will increase in weight, and possibly your overall weight will increase. Body composition is a better indicator of your condition than body weight.

Lack of physical activity causes muscles to get soft, and if food intake is not decreased, added body weight is almost always fat. Once-active people, who continue to eat as they always have after settling into sedentary lifestyles, tend to suffer from "creeping obesity."

## E.O. 5 Earn the Young Marine CPR and Advanced First Aid Ribbon Award.

In accordance with the Young Marine Awards Manual, you are to earn the Young Marine CPR Ribbon to be eligible for Young Marine Corporal and the Advanced First Aid Ribbon Award to be eligible for Young Marine Sergeant.

### PERFORMANCE QUALIFICATION REVIEW Performance Objective 9: Physical Fitness, Health, and First Aid

E.O. No.	Enabling Objective Description and Performance Requirement	Authorized Evaluators Signature
<b>1</b>	<b>Discuss the components of physical fitness</b>	
<b>a.</b>	Knows the two types of activities.	
<b>b.</b>	Knows how long to warm-up.	
<b>c.</b>	Knows how long to cool-down.	
<b>2</b>	<b>Develop and use a personal workout plan.</b>	
<b>a.</b>	Knows what each workout starts and ends with.	
<b>b.</b>	Knows the six amounts of activity necessary for average health.	
<b>3</b>	<b>Measure Your Resting and Target Heart Rates.</b>	
<b>a.</b>	Knows that a certain heart rate should be maintained for 20 minutes in order to contribute significantly to cardiovascular fitness.	
<b>b.</b>	Knows that your resting heart rate should be determined by taking your pulse after sitting quietly for five minutes.	
<b>c.</b>	Knows how to figure their target heart rate.	
<b>4</b>	<b>Determine what factor causes weight loss and gain.</b>	
<b>a.</b>	Knows that the key to weight control is keeping energy intake (food) and energy output (physical activity) in balance.	
<b>b.</b>	Knows that how much exercise is needed to make a difference in your weight depends on the amount and type of activity, and on how much you eat.	
<b>c.</b>	Knows that lack of physical activity causes muscles to get soft.	
<b>5</b>	<b>Earn the Young Marine CPR &amp; Advanced First Aid Ribbon Award.</b>	
<b>a.</b>	Earn the CPR Ribbon Award.	
<b>b.</b>	Young Marine has earned the Advanced First Aid Ribbon Award.	