



JROTC Virtual Learning

LET 2 Health and Fitness

May 12th, 2020



JROTC Virtual Learning

LET 2 Elements of Health

Lesson 2

What You Will Learn to Do

Learning Objectives:

Identify the benefits of exercise

Describe ways to increase your fitness level

Examine methods for increasing aerobic capacity, strength and endurance, and flexibility

Create a plan to set and achieve personal fitness goals

Benefits of Physical Activity



Key words

- aerobic exercise
- anaerobic exercise
- cross-training
- metabolism
- muscle strength
- muscle endurance
- physical fitness

What You Will Learn to Do

Develop ways to increase your fitness level

Linked Core Abilities

- Apply critical thinking techniques
- Build your capacity for life-long learning
- Communicate using verbal, non-verbal, visual, and written techniques
- Take responsibility for your actions and choices
- Treat self and others with respect

Learning Objectives

- **Identify** the benefits of exercise
- **Describe** ways to increase your fitness level
- **Examine** methods for increasing aerobic capacity, strength and endurance, and flexibility
- **Create** a plan to set and achieve personal fitness goals

Essential Question

How can you improve your level of physical fitness?



Nutrition Facts	
Serving Size 1 cup (220g)	
Servings Per Container 2	
Amount Per Serving	
Calories 260	Calories from Fat 110
% Daily Value*	
Total Fat 12g	24%
Saturated Fat 6g	12%
Total Fat 12g	24%
Cholesterol 50mg	10%

Learning Objectives (cont'd)

- **Explore** methods to monitor your fitness progress
- **Define** key words: aerobic exercise, anaerobic exercise, cross-training, metabolism, muscle strength, muscle endurance, physical fitness

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Introduction

Physical fitness is an official and integral part of every Junior ROTC program. Physically fit Cadets are more capable of serving their communities and nation. They are also healthier, stronger, and more capable of dealing with stress. In this lesson, you'll learn about different types of exercise and explore ways to set fitness goals for yourself.



Figure 6.2.1

Benefits of Physical Activity

In 2008, the U.S. government set a standard for young people to do 60 minutes or more of physical activity each day. In a 2013 survey, it appeared that the guidelines were not being met. The survey found that only 29 percent of high school students participated in such activity for 60 or more minutes a day.

The reason for concern about physical activity among young people is simple. Physical activity benefits you in three important ways:

- *Physical benefits* – your body is healthier
- *Academic/Emotional benefits* – you feel better and do better in school
- *Social benefits* – you meet and interact more with others

By now, the physical benefits of exercise may be obvious to you. Exercise increases your **physical fitness**—your ability to perform various activities without excessive fatigue or injury. Exercise can also help you maintain a healthy body weight by increasing your metabolism. **Metabolism** is the way the food you eat is converted into energy. If you consume more food than your body expends in energy, the excess is stored in your body as fat. Physical activity increases your metabolism, so that you use more of the energy from food.

Key words

physical fitness:

Your ability to perform various activities without excessive fatigue or injury

metabolism:

The way the food you eat is converted into energy



Figure 6.2.2

Physical activity also improves academic performance. Research has shown a strong correlation between exercise and grades in school. Young people who are physically active tend to get better grades. In addition, your brain responds to exercise by clearing your mind and “burning off” stress. You feel better emotionally.

Physical activity not only benefits both your body and mind. It also helps you socially. Because it helps you look and feel better you are more likely to interact with others. Physical activities often involve other people, so you also get the social benefits of meeting and making friends with other people.



Content Enhancement:

BENEFITS OF PHYSICAL ACTIVITY

Physical Benefits

- Strengthen heart and lungs
- Manage weight
- Control blood sugar
- Control blood pressure
- Increase strength and stamina
- Improve flexibility and muscle tone
- Improve balance, the feeling of stability and control over your body
- Develop coordination, the smooth and balanced movement of body parts at the same time
- Improve reaction time
- Increase the body's defense to diseases
- Improve sleep

Academic/Emotional Benefits

- Feel more alert and energetic
- Reduce stress
- Learn to focus on completing tasks, such as homework
- Learn new things
- Get a sense of accomplishment
- Lessen mental fatigue
- Build a positive self-image
- Increase self-confidence and self-esteem

Social Benefits

- Engage in enjoyable activities
- Meet and interact with new people
- Use abilities to work with others as a team
- Get support from friends
- Share goals and achievements with others



Figure 6.2.3

Increasing Your Level of Fitness

If you are not getting 60 minutes of exercise a day, you need to increase your physical activity. Even if you are doing the recommended 60 minutes, you can still improve your overall health by increasing your level of fitness.

Starting a new fitness program begins with your mind. Acknowledge that fitness is important to your well-being. Then choose activities that you enjoy and will give you the benefits you want. Finally, just do it. Move more.

If you are currently sedentary, look for ways to make physical activity part of your daily life. Take the stairs instead of using elevators and escalators. Walk or ride a bike when possible, rather than asking your friends, parents, or guardians for a ride.

In addition to looking for everyday opportunities to put your body to work, plan regular exercise. Start in sessions of 10 to 15 minutes at a time. Gradually work up to about 60 minutes 5 to 7 days a week. If you feel that you do not have time to spare, break down your activity into multiple shorter sessions during the day. Three 10-minute exercise sessions will provide the same benefit as one covering 30 minutes.

Elements of Fitness

Key words

aerobic exercise:

Moderate to vigorous activity that requires large amounts of oxygen; improves the cardiorespiratory system

anaerobic exercise:

Intense physical activity that requires little oxygen but uses short bursts of energy

There are two main types of exercise: aerobic and anaerobic. **Aerobic exercise** is rhythmic, nonstop, and moderate to vigorous activity that requires large amounts of oxygen and improves the cardiorespiratory system. Running, walking, biking, and swimming are forms of aerobic exercise.

Anaerobic exercise is intense physical activity that requires little oxygen but uses short bursts of energy. Sprinting, weightlifting, and gymnastics are examples of anaerobic exercise.

Each type of exercise benefits the body in a particular way. You can combine both types of exercise to achieve optimum fitness. By choosing a variety of activities, you can receive the benefits of both types of exercise.

A variety of activities will also help you with the elements of fitness:

- Aerobic capacity
- Muscle strength and endurance
- Flexibility

These three things are ways to measure fitness. The exercises in the Cadet Challenge address each of these.

Stages of Exercise

1. **Warm up.** Exercise at a low pace for 10 minutes to increase your heart rate and loosen your muscles and joints. Stretch gently.
2. **Workout.** Start at a comfortable level of exertion then build up gradually.
3. **Cool down.** Take a few minutes to slow your body down by moving at a slow, easy pace.

Figure 6.2.4

BUILDING AEROBIC CAPACITY

Aerobic capacity refers to the ability of your heart and lungs to supply oxygen to your muscles. Heart and lung capacity is important in all kinds of exercise—running, biking, jumping rope, swimming, and walking. Measuring aerobic capacity, including how far you can run without stopping, or how long you can play basketball without tiring, are indicators of your heart and lung endurance. Learn to pace yourself so that you can walk or jog without stopping.

The best way to build up heart and lung endurance is by doing moderate to vigorous exercise for at least 60 minutes on most days. This is called cardiovascular exercise, or sometimes just “cardio,” because it raises your breathing and heart rates. This makes your heart stronger.

Some exercises to build aerobic capacity are:

- *Walking/jogging/running* – Start off slowly, and then gradually increase your pace. Work up to a 30-minute walk, or alternate walking and jogging until you can jog or run for 20 minutes without stopping.
- *Swimming* – Swimming provides a total body workout. Gradually work up to 20 minutes of continuous swimming. Swim at a steady pace and vary your routine by using different strokes.
- *Jumping rope* – As you jump, guard your joints against unnecessary strain by raising your feet just high enough to allow the rope to pass. Gradually build up your ability until you can jump rope for 60 seconds without stopping.



Figure 6.2.5



Content Enhancement: CROSS-TRAINING

Cross-training, or switching between different exercises, has benefits over doing one exercise all the time. It can also help reduce injury by working different muscle groups instead of overusing one group, as may happen if your only exercise is running.

Overuse of one muscle group can cause weakness in another area of the body, possibly resulting in injury. Cross-training can also help reduce boredom of doing one type of exercise over and over again.

A good example of cross-training for someone who runs is to include weightlifting. Weightlifting provides muscular strength while running improves heart and lung endurance.

MUSCLE STRENGTH AND ENDURANCE

The ability of a muscle to exert a force is its strength. **Muscle strength** is the most force you can exert or weight you can lift at one time. **Muscle endurance** is the ability of a muscle to repeatedly exert a force over a

Key words

cross-training:

A form of exercise where you switch between different exercises to build up different aspects of your fitness

muscle strength:

The most force you can exert or weight you can lift at one time

muscle endurance:

The ability of a muscle to repeatedly exert a force over a prolonged period

prolonged period. Strength and endurance work together. The greater your muscle strength, the more force your muscles can exert. The greater your muscle endurance, the longer your muscles can exert force.

Three basic strengthening exercises help improve strength and endurance of your abdominal area and upper body. These include push-ups, curl-ups, and step-ups:

- Push-ups strengthen muscles in your arms and chest. Lie face down on the floor. Bend your arms and place your palms flat on the floor beneath your shoulders. Straighten your arms, pushing your entire body upward, and then lower your body to the floor. Repeat.
- Curl-ups strengthen your abdominal muscles. Lie on your back with your knees bent and your heels on the floor. Cross your arms over your chest. Curl your upper body forward so that both shoulder blades come off the floor. Uncurl and repeat.
- Step-ups strengthen your leg muscles. Step up onto a step with your left foot and then bring your right foot up. Step down with your left foot and bring the right foot down. Repeat, alternating between feet.

Weight training is a good way to build muscle strength. You should start with lifting light weights multiple times. Make sure, however, that you learn from an expert, such as a fitness trainer or physical education teacher. Lifting weights properly prevents injury and provides the best chance for improvement.

FLEXIBILITY

Flexibility is the ability of your joints to move easily through a full range of motion. When you have good flexibility, you can easily bend, turn, and stretch your body. People with limited flexibility may move stiffly or strain parts of their body.

You can improve your flexibility through regular stretching, bending, and twisting exercises. Move slowly and gently, and improve the flexibility of different muscle groups gradually. Stretch when your muscles are warmed up a bit and be careful not to overstretch. One tool used to measure flexibility is the V-sit reach, which is part of the Cadet Challenge.



Figure 6.2.6

Setting Fitness Goals

A personal fitness plan can help you achieve the level of fitness that will improve your general health and improve your endurance. However, a plan can become confusing. You may wonder which exercises or other physical activities will best help you reach your fitness goals. Maybe you're not sure how to do an exercise.


Your JROTC instructor, a physical education teacher, or coach can help. They can show you how to get started, what equipment to use, and how to exercise safely. They can also help you stay motivated. The following chart shows the benefits of different activities.

<i>Exercise</i>	<i>Muscle Strength and Endurance</i>	<i>Lung Strength and Endurance</i>	<i>Heart Strength and Endurance</i>
Handball	High	High	High
Swimming	High	Medium	High
Jogging	Medium	High	High
Bicycling	Medium	High	High
Tennis	High	Medium	Medium
Brisk walking	Medium	High	High
Slow walking	Low	Medium	Medium
Softball	Medium	Low	Low
Weight training	High	High	Low

* The ratings in this chart show the benefits of activities done for 30 minutes or more.

Figure 6.2.7

Setting goals is an important step in starting a fitness program. Keep in mind that the goals you set should be reasonable and realistic. Using the SMART system will help you set reachable goals.



Content Highlight:
EXAMPLE OF SETTING A SMART GOAL

Specific: Be able to run 3 miles
Measurable: Log activity each week
Attainable: Run/walk for 30 minutes 3 times a week
Results: Run a 10-minute mile by the end of the month
Time frame: I want to be able to do this by the end of the month

Creating an Activity Plan

If you feel confident enough to do your own fitness planning, a weekly activity outline can be helpful. (See Figure 6.2.8 for a sample plan.) A written plan will keep you on track and help you exercise consistently. You should make your own plan based on activities you like and your schedule.

There are two things to do when developing your plan. First, write down all of your scheduled physical activities or exercise sessions. These would include gym periods, team practices, and drill practice. Second, pencil in a variety of physical activities and exercises. Try to balance your schedule so that every day you have some activities listed, but no single day is overloaded. Also, be flexible, and include some choices. For example, you might write, “Jog or bike ride,” and then decide which activity you prefer when that day comes.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Bike ride	Gym class	Basketball or jog after class	Gym class	Basketball or jog after class	Gym class	Soccer game
1 hr.	50 min.	40 min.	50 min.	40 min.	50 min.	1 hr.
	Soccer practice	Karate class	Soccer practice	Karate class	Walk home from school	Karate class
	2 hrs.	1 hr.	2 hrs.	1 hr.	20 min.	1 hr.
	Walk home from practice	Drill practice		Drill practice		
	20 min.	1 hr.		1 hr.		
TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
1 hr.	3 hr. 10 min.	2 hr. 40 min.	2 hr. 50 min.	2 hr. 40 min.	1 hr. 10 min.	2 hr.

Figure 6.2.8

There are two things to do when developing your plan. First, write down all of your scheduled physical activities or exercise sessions. These would include gym periods, team practices, and drill practice. Second, pencil in a variety of physical activities and exercises. Try to balance your schedule so that every day you have some activities listed, but no single day is overloaded. Also, be flexible, and include some choices. For example, you might write, "Jog or bike ride," and then decide which activity you prefer when that day comes.

Keep in mind that your activity plan should meet your personal fitness goals. You may also find that it is not that hard to stay active.

Monitoring Your Progress

As you work toward your fitness goals, monitoring your progress becomes important. Remember that change comes gradually. You can't expect to cut 30 seconds off your mile time after only a week of working out.

Here are some suggestions for evaluating your progress:

- Keep an exercise log or journal, making performance notes after each workout.
- After four to six weeks of workouts, you should notice some improvement in your overall fitness. Depending on the exercises you have been doing, you should feel stronger. You should have more endurance and greater flexibility. You will probably also feel better overall, look fit, and have more energy.
- If you see no significant change after six weeks, you need to evaluate the situation. Have you been exercising regularly? Do you need to modify your fitness goals?



Figure 6.2.9

Evaluating your progress (cont'd):

- Another measure of fitness is your resting heart rate, the number of times per minute your heart beats when your body is at rest. The average heartbeat rate ranges from 72 to 84 beats per minute. A resting heartbeat rate less than 72 is generally associated with good physical fitness. Aerobic exercise will help your resting heart rate by making your heart stronger.

Once you reach your fitness goals, you might consider setting new goals for yourself. This will keep your routine interesting, and help you continuously improve your fitness.

Conclusion

In this lesson, you learned about the benefits of physical fitness. Different kinds of exercise will build different elements of fitness, to ensure you have the capacity, strength, endurance, and flexibility to perform well at any physical task. Creating a personal activity plan can keep you on track and help you meet your fitness goals.

Lesson Check-up



- Describe some benefits of physical activity.
- What is the best way to build up aerobic capacity?
- Why is it important to have a written plan for improving your fitness?

Performance Assessment Task

Benefits of physical activity

This performance assessment task gives you an opportunity to document your achievement of the lesson's competency:



Directions

For this performance assessment task you will participate in Elements of Health. For this assessment you will:

1. Apply critical thinking techniques.
2. Build your capacity for life-long learning.
3. Communicate using verbal, non-verbal, visual, and written techniques.
4. Take responsibility for your actions and choices.
5. Treat self and others with respect.

RECOMMENDATION: It is recommended that you add this performance assessment task to your Cadet Portfolio.

Benefits of physical activity Performance Assessment Task Scoring Guide

<i>Criteria</i>	<i>Ratings</i>
Identify the benefits of exercise	met not met
Describe ways to increase your fitness level	met not met
Examine methods for increasing aerobic capacity, strength and endurance, and flexibility	met not met
Create a plan to set and achieve personal fitness goals	met not met
Define key words: aerobic exercise, anaerobic exercise, cross-training, metabolism, muscle strength, muscle endurance, physical fitness	

Comments: