



# JROTC Virtual Learning

LET 2 Health and Fitness

May 11<sup>th</sup> -15<sup>th</sup>, 2020



# JROTC Virtual Learning

## LET 2 Elements of Health

### Lesson 1

#### What You Will Learn to Do

**Learning Objectives:** Identify the elements of health:

Describe how what you eat impacts health

Describe how exercise impacts health

Identify how stress impacts overall health

Identify causes for lack of sleep, Explain how lack of sleep affects the brain

# Elements of Health



## Key words

- caffeine
- cardio-respiratory
- correlation
- impulse control
- irrational
- melatonin
- sedentary

## What You Will Learn to Do

Examine the elements of health

## 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 elements of health
- **Describe** how what you eat impacts health
- **Describe** how exercise impacts health
- **Identify** how stress impacts overall health
- **Identify** causes for lack of sleep
- **Explain** how lack of sleep affects the brain

# Essential Question

What choices can you make to promote good health?



## Learning Objectives (cont'd)

- Identify unsafe behaviors
- Define key words: caffeine, cardio-respiratory, correlation, impulse control, irrational, melatonin, sedentary

### Introduction

There are several elements contributing to a person's overall health. How much exercise you get, what you eat, and how much and how well you sleep have an impact on your overall health. In this lesson, you'll learn the basics of what goes into good health. You'll also examine unsafe behaviors.

### Elements of Health

Maintaining good health isn't about one single thing. Instead it is an approach to life that you live by each day. Each day, you should:

- Exercise
- Eat a healthy amount and healthy combination of food
- Get enough sleep
- Practice healthy options for controlling stress
- Avoid unsafe behaviors

Try to make each of these a habit. When developing healthy habits like this by practice, you'll find yourself doing them without even thinking about it!



Figure 6.1.1

There will be days when you aren't able to exercise or get enough sleep. That's okay—the important thing is to keep the unhealthy behaviors to a minimum. For example, if you have a double cheeseburger, large fries, and a milkshake one day, it won't ruin your health. But if you eat fast foods every day, you might find yourself gaining weight or having complexion problems.

## Physical Activity

Physical activity should be a regular part of your day. Did you know that regular physical activity in children and adolescents promotes health and fitness?

Research compared teens that are inactive to those who are physically active and found that the teens who exercise have stronger muscles and higher levels of **cardio-respiratory** fitness. Teens who exercise typically have a lower percentage of body fat, stronger bones, and may experience less depression and anxiety than youth who do not exercise regularly.

You don't have to be a star athlete to benefit from exercise. Research shows that you'll gain benefits from even moderate exercise. Ideally, you should get an hour of exercise each day. For example, you might spend 30 minutes biking to school, then shoot hoops with friends for another 30 minutes.

## Key words

### **cardio-respiratory:**

The part of the body that is responsible for heart-lung functioning



## Content Enhancement:

### TEEN HEALTH ENEMY: SCREEN TIME

How much time do you spend watching television, at a computer, or on your phone? While screen time can be fun, it often robs you of time you could be spending exercising or sleeping. The National Institutes of Health recommends that teens spend no more than two hours per day on sedentary screen time. If you have some bad screen time habits, try to follow these guidelines:

- Make plans to get out with friends.
- Schedule exercise as part of your daily routine.
- Eat at the dinner table, not in front of the TV or computer.
- Don't lie in bed while watching or interacting with electronic devices.
- Don't stay awake waiting for messages.
- Turn off the TV, computer, and/or smartphone at least 30 minutes before you go to bed. The light that emanates from these screens can actually make it more difficult for you to fall asleep.



Figure 6.1.2



Adults who are **sedentary** have a higher risk of developing chronic illnesses, such as heart disease, hypertension, type 2 diabetes, or osteoporosis. Most teens are not going to develop these illnesses, even if they have a sedentary lifestyle. But staying active now can give you a better chance of remaining healthy into your adult years. The healthy habits you make now can stay with you for the rest of your life.

## Key words

**sedentary:**

Sitting or resting a great deal; moving very little

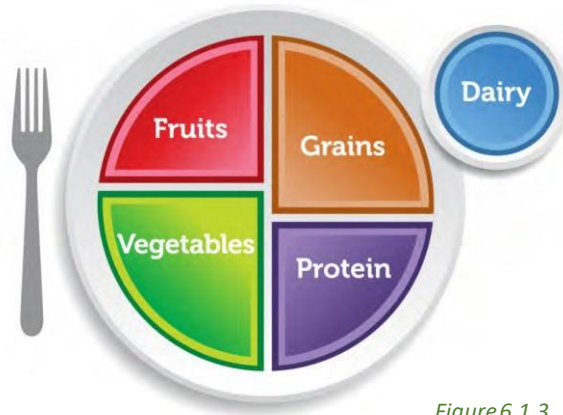


Figure 6.1.3

### Healthy Eating

The best way to ensure you're getting proper nutrition without consuming too many calories is by eating a good balance of fruits, vegetables, grains, proteins, and dairy products. In general, a healthy eating plan:

- Emphasizes fruits, vegetables, whole grains, and fat-free or low-fat milk, and dairy products
- Includes lean meats, poultry, fish, beans, eggs, and nuts
- Is low in saturated fats, trans fats, cholesterol, salt (sodium), and added sugars
- Stays within your calorie needs

Make sure you have three healthy meals each day, beginning with a nutritious breakfast. Eating a good breakfast can actually help you reach and maintain a healthy weight. In a later lesson, you'll learn more about nutrition and how to get the right balance of different foods.

### Content Enhancement:

#### EASY VS. HEALTHY

In today's world, calorie-packed food comes fast and easy. But, the benefits of staying at a healthy weight are huge and well worth the effort. In addition to lowering the risk of heart disease, stroke, diabetes, and high blood pressure, keeping weight in check can also lower the risk of many different cancers, including breast, colon, kidney, pancreatic, and esophageal.



Figure 6.1.4

Does it really matter if you get enough sleep? Absolutely! Not only does the quantity of your sleep matter, but the quality of your sleep is important as well. If your sleep is interrupted or cut short, you might not reach the deeper stages of sleep. Then you will not feel as rested. How well you function during the day depends on how well you sleep at night and how much time you spend in each stage of sleep.

Getting enough deep sleep each night is important for a functioning brain. Your brain needs sleep for:

- Concentration
- Quick reactions
- Creating memories and learning
- Coordination

### Content Highlight:

#### STAGES OF SLEEP

- 1** During Stage 1 of sleep, you drift in and out of awareness. You can be awakened easily. Your closed eyes move slowly and your muscles quiet down. You may have a sensation of starting to fall, and you might have sudden body movements.
- 2** In Stage 2, your eye movement stops and your brain waves become slower.
- 3** In Stage 3, your brain begins to produce extremely slow brain waves, called delta waves.
- 4** In Stage 4, your brain produces mostly delta waves.

Stages 3 and 4 are deep sleep. If someone wakes you up suddenly from a deep sleep, you may feel groggy and disoriented until your brain adjusts to being awake.

The pathways in the brain that help us learn and remember are very active when we sleep. Studies show that people who are taught mentally challenging tasks do better after a good night's sleep. Other research suggests that sleep is needed for creative problem solving.

Getting enough sleep is also important to maintain a healthy weight. Less sleep can increase your risk of being overweight or obese. A recent study found that with each extra hour of sleep, the risk of being overweight or obese dropped by nine percent. Most teens need at least nine hours of sleep per day.

Lack of quality sleep in teens affects your performance in school. Some studies show a **correlation** between lost sleep and poorer grades. Lack of sleep also affects your ability to do your best in sports. Worse yet, anyone who drives while drowsy, risks having a car accident.



Figure 6.1.5

The National Highway Safety Traffic Administration estimates that more than 100,000 accidents, 40,000 injuries, and 1,500 deaths are caused by drivers who are simply tired. Young people under the age of 25 are far more likely to be involved in drowsy driving crashes.

One of the enemies of sleep for teens is screen time. Screens on TVs, computers, tablets, and smartphones emit a type of blue light that has a chemical effect on your brain: blue light actually makes it more difficult to get to sleep. Winding down by reading on an electronic device actually makes it harder to achieve a long deep sleep. Turn off electronics at least an hour before you go to bed. You'll get to sleep faster and sleep more soundly.

Another enemy of sleep is **caffeine**. Caffeine is a drug found naturally in coffee and tea. It increases alertness and wakefulness. Caffeine is added to many soft drinks and sports drinks. Limit your intake of these beverages if you want a good night's sleep!

The decision to get enough sleep is up to you. Decide to get the rest your body needs and feel better as a result!

## Content Highlight:

### BLUE LIGHT AND YOUR BRAIN

Electronic devices such as TVs, tables, computers, and smart phones emit a blue light that changes the way your brain works. Normally, a gland in your brain releases a chemical, **melatonin**, which signals it is time for sleep. Melatonin reduces alertness and makes sleep more inviting.

However, when your eyes are exposed to blue light, your brain stops releasing melatonin. You don't even have to be staring directly at a screen. The brain will suppress melatonin if enough blue light reaches the eye.

## Key words

### **correlation:**

How two or more measurements relate or don't relate to each other

### **caffeine:**

A drug found naturally in coffee and tea, which increases alertness

### **melatonin:**

Substance produced by the brain that helps you sleep



## Stress Management

Stress is an inevitable part of life that everyone—adults, teens, and even children—experiences at times. Stress can be beneficial by helping people develop the skills they need to cope with, and adapt to, new and potentially threatening situations throughout life. However, the beneficial aspects of stress diminish when it is severe enough to overwhelm a person's ability to cope effectively.

Stress can impact your overall health, both by changing your behavior and by affecting your body. People who are stressed out often eat poorly, do not get enough sleep, and fail to exercise. Prolonged stress can cause headaches, a weakened immune system, anxiety, lack of sleep, and more.

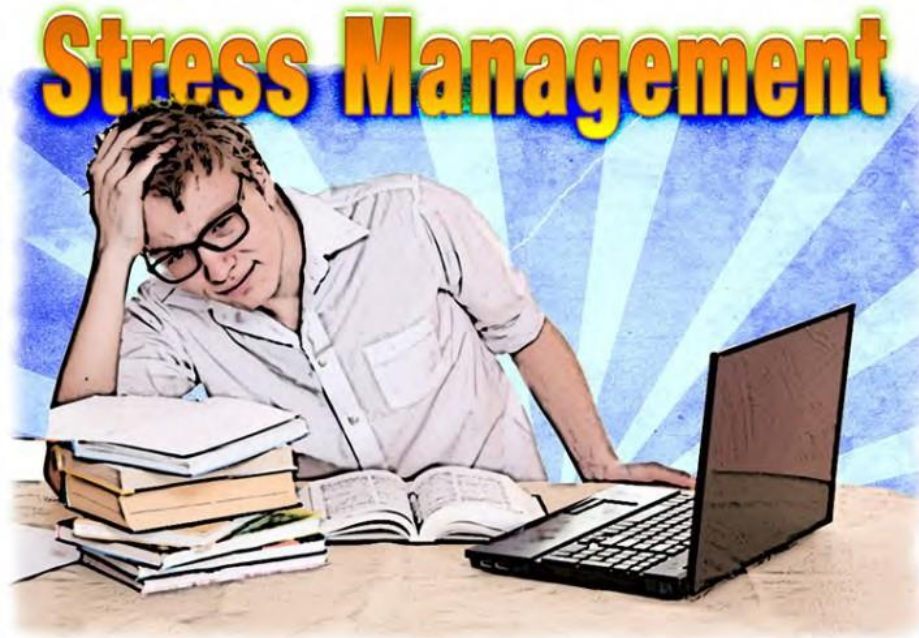


Figure 6.1.6

By taking care of yourself and getting plenty of rest and exercise, you can better deal with the effects of stress. As you learned in Unit 1, you can reduce stress by:

- Knowing how and when to relax
- Keeping a positive outlook
- Keeping a sense of humor
- Learning to be assertive
- Ignoring circumstances that can't be changed
- Being physically active
- Finding a hobby you enjoy
- Eating healthy
- Seeking supporters to help you cope
- Solving small problems to increase your confidence



Figure 6.1.7

Finding healthy ways to manage stress is one of the most important life skills you'll learn. When you can control your stress in healthy ways, the rest of your life will be easier and more productive.

## Safe Behaviors

A person's behavior can positively or negatively affect his/her health. By now, you already know about negative habits related to exercise, eating, and sleep. However, other behaviors can also impact your health:

- *Using drugs, alcohol, or tobacco*

These substances can change the way your brain functions and/or damage your organs. In a later lesson, you'll learn about the specific health effects of these substances.



Figure 6.1.8

- *Seatbelt use*

In most states, wearing a seatbelt is required by law. Even if you live in a state where seatbelt use is not required, wear one. Research shows that seatbelts save lives and reduce injuries—both for front-seat and rear-seat passengers. Don't risk crippling injuries or death by not wearing a seatbelt.



Figure 6.1.9

- *Impulsive behavior*

The teen years are often ones filled with creativity and curiosity. Teens' brains are sharp and fast. However, a young person's brain is not fully developed. The last part of the brain to develop is the frontal lobe, which is responsible for judgement, insight, and **impulse control**.

## Key words

**impulse control:**

The ability to regulate sudden desires to do something

## Key words

**irrational:**  
Without reason or sound  
judgement

- *Impulsive behavior (cont'd)*

This is why smart teens are often risk-taking and **irrational** about their own behavior. They may be able to recognize a friend's daredevil behavior, but unable to control their own if they are dared or invited to do something risky.



Figure 6.1.10

Hospital records are filled with teenagers who did not stop and consider that they might be seriously injured by jumping off a building, walking near the edge of a cliff, running through traffic, driving at night with headlights off, or any other number of exciting, but risky behaviors. Train yourself to stop and think before you succumb to your own curiosity or a friend's dare: "If I do this, I could have a serious injury."

## Content Highlight:

### FUN AND DEATH

Young adults can be fearless; they may not believe they can be hurt. This type of thinking can result in tragedy. Consider these two examples:

**Cartersville, GA** – Just hours after graduation ceremonies, a teenager died when he was playing a shopping cart game with his friends. The game involved getting into the cart, being tied to the cart, and then being pushed into a lake. Chance Werner, 18, of Cartersville died at Lake Allatoona, north of Atlanta. His body was found in about 30 feet of water and he was still tied to the cart.

**Manning, OR** – A three-car crash resulted after a 19-year-old man fainted while holding his breath as he drove through a tunnel. Daniel J. Calhon told police he fainted while holding his breath. When he fainted, his car drifted across the centerline and crashed head-on with a Ford Explorer. A third car hit the vehicles after they struck the walls of the tunnel. Calhon, his passengers, and passengers in the other cars were taken to the hospital for injuries. Calhon was charged with one count of reckless driving, three counts of reckless endangerment, and fourth-degree assault.

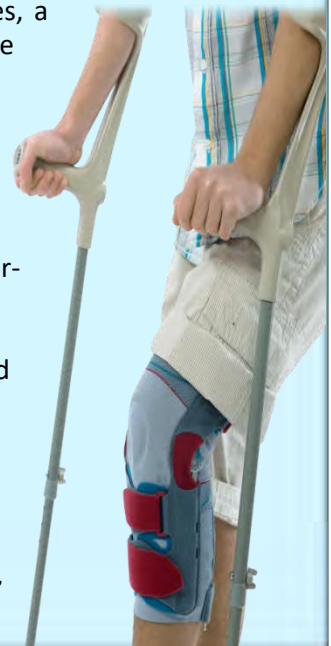


Figure 6.1.11

## Conclusion

In order to achieve a healthy lifestyle, it is important to manage and balance stress, physical activity, sleep, and diet. These factors drastically impact a person's health—their physical, mental, and social well-being. In order to do this properly, it takes determination and self-discipline. Control impulses to engage in unhealthy or risky behaviors. Choose activities that bring you strength, endurance, health, and peace of mind.

## Lesson Check-up



- What are some of the benefits of exercise?
- Describe the negative effects of lack of sleep.
- Explain why teens are especially weak at impulse control.

# *Performance Assessment Task*

## *Health and Fitness*

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

### **Health**

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#### **Directions**

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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.



## Elements of Health Performance Assessment Task Scoring Guide

<b>Criteria</b>	<b>Ratings</b>
<b>Identify</b> the elements of health	met    not met
<b>Describe</b> how what you eat impacts health	met    not met
<b>Describe</b> how exercise impacts health	met    not met
<b>Identify</b> how stress impacts overall health	met    not met
<b>Identify</b> causes for lack of sleep	met    not met
<b>Explain</b> how lack of sleep affects the brain	met    not met
Define key words: <b>caffeine, cardio-respiratory, correlation, impulse control, irrational, melatonin, sedentary</b>	
<b>Comments:</b>	