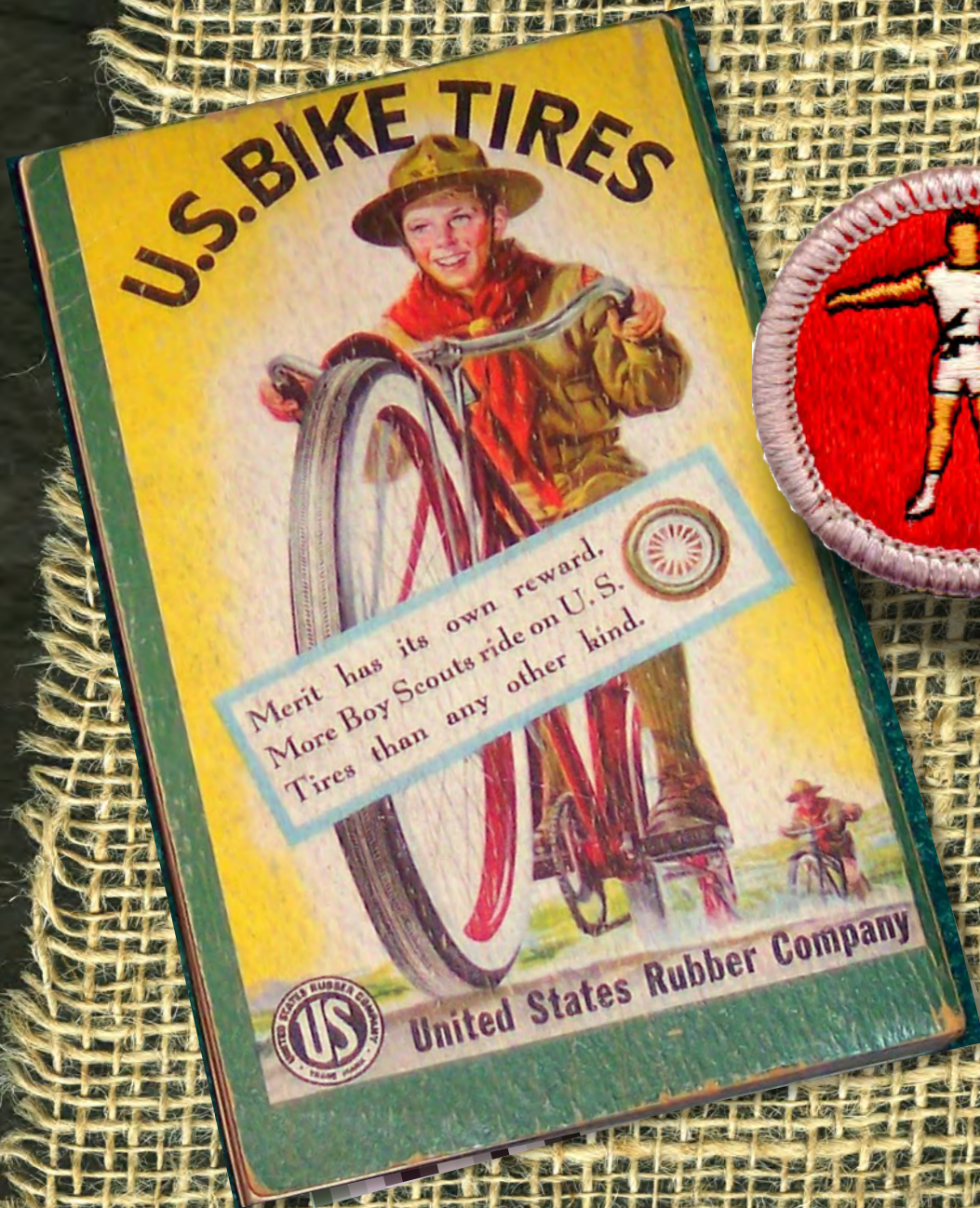


Personal Fitness Merit Badge



How to use this workbook.

Read the workbook and answer the questions. You can type in this workbook and save the results. When you have finished, print the workbook with your answers and review it with your merit badge counselor.

Be sure to read the entire book, including the sections without questions. Your counselor will ask you questions about those sections also.

Remember, a Scout is trustworthy. This workbook should be your work.

Do your best!



A boy learning what he can as a Scout has a good chance in the world.

1. Do the following:

(a) Before completing requirements 2 through 9, have your health-care practitioner give you a physical examination, using the Scout medical examination form. Describe the examination. Tell what questions the doctor asked about your health. Tell what health or medical recommendations the doctor made and report what you have done in response to the recommendations.

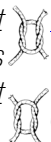


(2) Why preventative habits (such as exercising regularly) are important in maintaining good health, and how the use of tobacco products, alcohol, and other harmful substances can negatively affect our personal fitness.

Complete this requirement by reviewing the Physical Activity for children and adolescents at the Center for Disease Control (CDC) at this website:

<http://www.cdc.gov/physicalactivity/everyone/guidelines/children.html>

Complete this requirement by ensuring an up to date Boy Scout medical form is on file with the troop. If your physician has restricted your activities, be sure to review this with your merit badge counselor and the Scout Master.



How many minutes a day does this website recommend that children and adolescents exercise? What are the three types of exercises the CDC recommends?

(b) Explain the following:



(1) Why physical exams are important



Complete this requirement by going to the following website:



There is a great deal of health information available, however you should question the source. Unfortunately, some people will report information as fact that has not been fully verified. Reliable information comes from your physician and organizations that have serving the public for a long time. The following site is sponsored by the National Institute of Health.



Go to Medline Plus and search for Health Checkup or Screening or go to the following link.



To determine the health benefits of exercise, visit the Physical Activity and Health webpage from the CDC.

<http://www.nlm.nih.gov/medlineplus/ency/article/002125.htm>



<http://www.cdc.gov/physicalactivity/everyone/health/index.html>

What are the five reasons for having a health screening for men between 18-39.



List five benefits of physical activity listed on this website.



How often should men between 18-39 check have their blood pressure checked? What would change this frequency?



(1) Requirement 1-a continued

(2) Diseases that can be prevented and how.

At the end of the 1800s, infectious disease was the leading cause of death in the United States. Tuberculosis, influenza, typhoid, pneumonia, and diphtheria were among the many illnesses that threatened public health. Living conditions remained poor for most people, and access to safe food, water, and sewage systems was limited. This was true in rural areas, where poverty and isolation were common, as well as in the rapidly growing cities, where industrialization and large-scale immigration presented new challenges. Starting in the 1860s and 1870s, when Louis Pasteur formulated what became known as the germ theory of disease, scientists gradually came to understand the causes of infectious diseases, but until the development of antibiotics during World War II, there were few treatments.



An infectious disease is transmitted from some source. Transmission may occur through several different mechanisms. The following list contains the primary forms of transmission:



- Respiratory diseases and meningitis are commonly acquired by contact with aerosolized droplets, spread by sneezing, coughing, talking, kissing or even singing.
- Gastrointestinal diseases are often acquired by ingesting contaminated food and water.
- Mechanical Vector - typically through an insect such as fly that gets a contaminate on its body and transmitted to food by landing on food that you later eat.
- Biological Vector - Infectious agent is inside the insect and it is transmitted through a bite, such a lyme disease carried by ticks.

For each transmission method, list a way we can prevent the spreading of infectious disease. Where possible, include Scouting activities where these forms of transmission may occur.

Respiratory
Gastrointestinal
Mechanical Vector
Biological Vector

One other way that infectious disease can be transmitted is by exchanging body fluids through sexual activities. To complete this requirement, discuss ways to prevent this form transmission with your parents.

(1) Requirement 1-a (continued)

(2) Diseases that can be prevented and how (continued)

In general we combat transmission by basic cleanliness and hygiene. For the wider population this is done by employing modern plumbing and building sewage treatment facilities that safely disposes of waste. Federal, state and local government develop and enforce regulations to manage food safety. Finally, as individuals, we must practice good hygiene by taking proper care of food and cooking it thoroughly and through individual cleanliness, such as washing our hands. The hands are very common way to transmit disease.

The two forms of infectious disease we are concerned with are bacteria based and viral or virus based. Bacteria are a form of microorganisms, so they are actually living entities. Bacteria were first observed by Antonie van Leeuwenhoek in 1676, using a single-lens microscope of his own design. Louis Pasteur demonstrated in 1859 that the fermentation process is caused by the growth of microorganisms, and that this growth is not due to spontaneous generation. Along with his peer, Robert Koch, Pasteur was an early advocate of the germ theory of disease. By the end of the 1800's it was known that bacteria are the cause of many diseases, but no effective antibacterial treatments were available. People died of infections, from things as simple a prick from a rose thorn, that could easily treated and cured today.



By the end of the 1800's it was known that bacteria are the cause of many diseases, but no effective antibacterial treatments were available. People died of infections, from things as simple a prick from a rose thorn, that could easily treated and cured today.

Your body fights infectious disease and foreign

materials with white blood cells, or leukocytes. These cells can attack and destroy bacteria, but they are not always successful, so doctors and researchers looked for a way to improve the body's defense system. In 1928, Alexander Fleming noticed a halo around a Staphylococcus (staph) culture that inhibited its

growth. He concluded that the mold was releasing a substance that was inhibiting bacterial growth. He grew a pure culture of the mold and discovered that it was *Penicillium notatum*. With help from a chemist he isolated what he later named penicillin. During the next twelve years, he grew and distributed the original mould, unsuccessfully trying to get help from any chemist that had enough skill to make a stable form of it for mass production. Between 1941 to 1944 scientist as the United States Department of Agriculture (USDA) and a Pfizer developed a means to produce penicillin in mass quantities. During World War II, the production of penicillin was a closely held secret and its production saved countless lives. Today antibiotics have greatly reduced the number of deaths from infectious disease.



(1) Requirement 1-a (continued)

(2) Diseases that can be prevented and how (continued)

The other form of infectious disease comes from viruses. A virus is a small infectious agent that can replicate only inside the living cells of organisms. Viruses infect all types of organisms from animals and plants, including the bacteria we just learned about. They are found wherever there is life and have probably existed since living cells first evolved. Viruses are different from bacteria in that they are not living organisms. They are on the edge of living, but must infect living cells to replicate. They are responsible for a wide range of human diseases ranging from the common cold, influenza, chickenpox and cold sores. Many serious diseases such as ebola, AIDS, influenza (flu) and SARS are caused by viruses. The prevention and treatment of viruses date from the very old to the very recent.

Until recently, there was no way to treat a virus. The only options were to prevent the viral infection or treat the symptoms. Vaccination is the administration of a weakened form of the virus to stimulate the body's immune system to develop adaptive immunity to a disease. In 1718, Lady Mary Wortley Montagu reported that the Turks had a tradition of deliberately inoculating themselves with fluid taken from mild cases of smallpox, and that she had inoculated her own children. The effectiveness of vaccinations spread and, over time, it evolved from a home form of medicine to an important medical technique. It is very important to have a regiment of vaccinations when you are young and keep them up to date throughout your life. If you travel internationally, be sure your immunizations are up to date because you may be exposed to diseases not common in the United States.

The onset of the AIDS pandemic has led to the development of antiviral drugs. These drugs often have molecules that are very similar, but not identical to DNA building blocks in viruses. When the replication of virus DNA begins, some of these fake building blocks are incorporated. As soon as that happens, replication stops prematurely—the fake building blocks lack the essential features that allow the addition of further building blocks.

Complete this requirement by answering the following questions. Some of the answers can be found in this workbook and others will require research with the Internet or other source.

What was the first process the Pasteur attributed to bacteria?

What is the definition of a broad-spectrum antibiotic?

How can antibiotics be abused and what is the danger of this abuse?



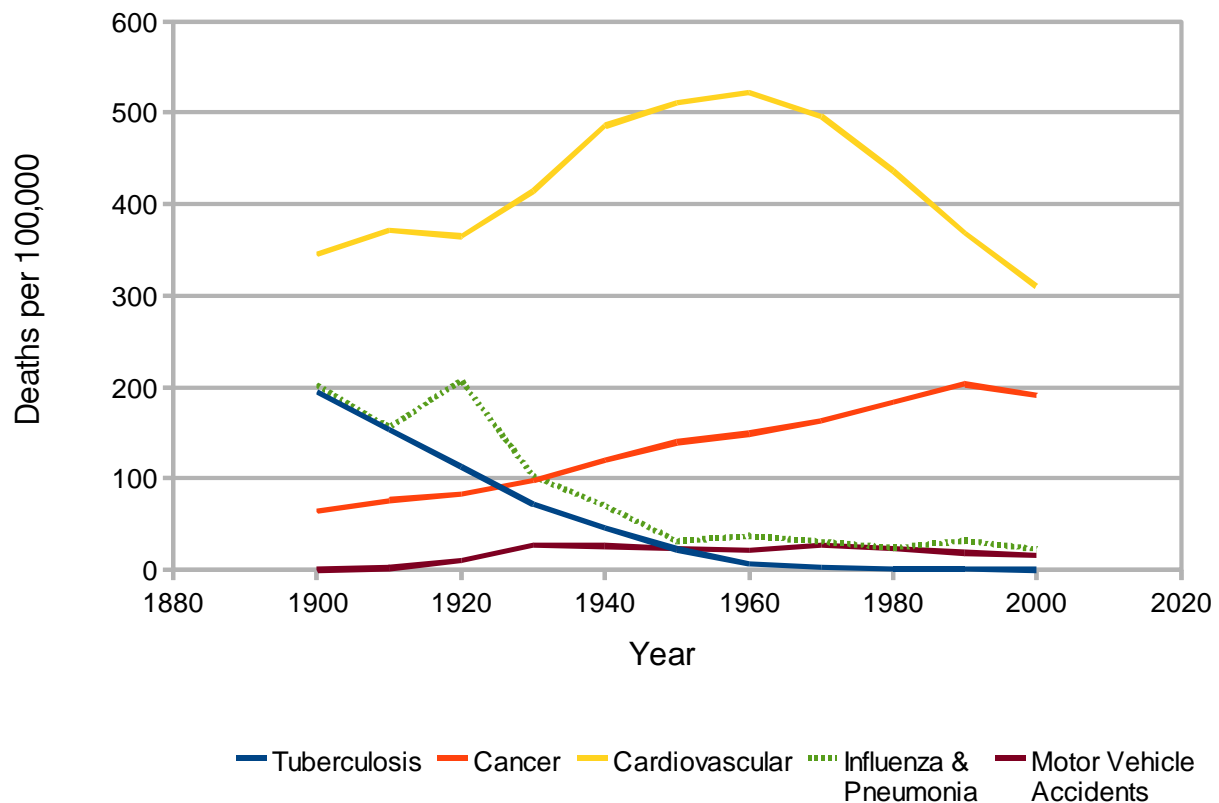
(1)Requirement 1-a (continued)

Name five diseases that were deadly in the past, but now not a threat due to vaccines.

Name one of these diseases that is making a comeback and explain why.

Review the dashed line in Figure 1 US Mortality Rates by Decade that tracks the deaths due to infectious disease. Explain the trend over time. What event happened in 1918 that lead to the spike seen in the line.

Figure 1 - US Mortality Rates by Decade



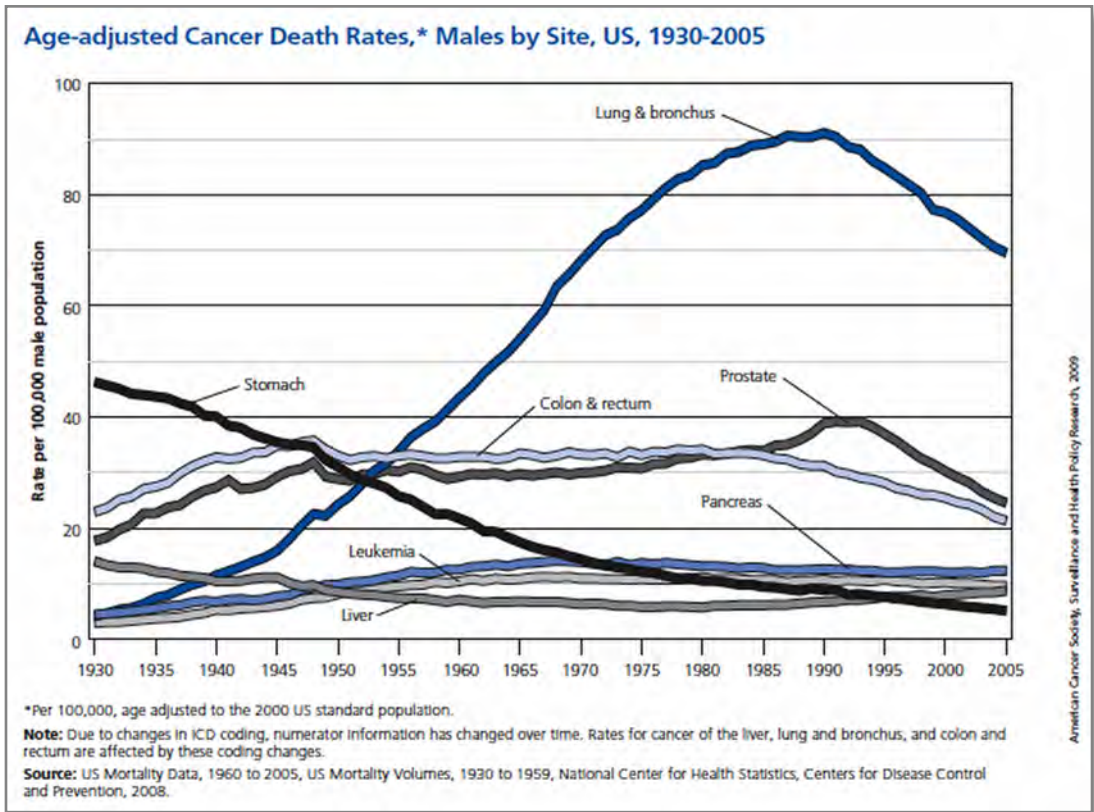
Requirement 1-a (continued)

Reviewing Figure 1 - US Mortality Rates by Decade, what is the trend for cancer over the decades. Name one or two factors that you think have influenced that trend.

Visit WebMD at this Internet address (<http://www.webmd.com/cancer/understanding-cancer-symptoms>) or another reputable site and list the seven warning signs of cancer.

- 1
- 2
- 3
- 4
- 5
- 6
- 7





Describe the trends (increasing, decreasing, stable) that you see with mortality rates over time for the different types of cancer. What do you think accounts for the trends for each type of cancer.



The decline in stomach cancer mortality appears to be due to a reduction in incidence rather than significant improvements in diagnosis or treatment. This decline is likely to have been due partly to an increase in the availability of refrigeration, healthier living conditions, fewer infections and better diets.

The rapid increase in incidence of prostate cancer during the late 1980's and early 1990's is thought to be due largely, if not entirely, to increased utilization of prostate specific antigen (PSA) testing. This test increased the number of prostate cancer diagnosis and it increased the number of people getting treated earlier, which lead to the decrease in the number of deaths due to prostate cancer in the subsequent years.

Colorectal cancer is one of the most preventable forms of cancer. The precursor of this type of cancer can be detected and removed. Due to educational programs, more people are getting screened, so colorectal cancer or its warning signs are detected and treated earlier with more success. Also, people can make healthier living choices to reduce their risk. Research from The National Cancer Institute says if Americans practice healthier habits -- avoiding "physical inactivity, being overweight and obese and a diet high in red and processed meats" -- colorectal cancer rates could decrease even more.

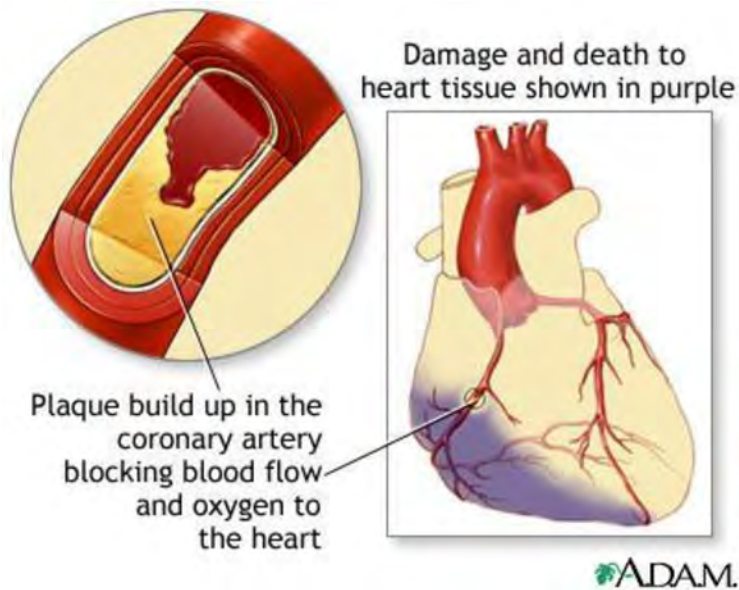
Based on what you have learned about cancer, what can you do over your life time to reduce your chances of having cancer?



"Physical fitness is most important body, it is the and creative activity."

not only one of the keys to a healthy basis of dynamic intellectual

John F. Kennedy



The job the heart has is to pump blood throughout your body. It is a muscular organ that is filled with blood. The coronary arteries, located on the outside of the heart supply the muscles of the heart with oxygen rich blood. It is ironic that a organ that is full of blood still needs arteries to supply it. A heart attack occurs when one of the arteries that supplies the heart muscle becomes blocked. Blockage may be caused by spasm of the artery or by atherosclerosis with acute clot formation. The blockage results in damaged tissue and a permanent loss of contraction of this portion of the heart muscle.

Chest pain is the most common symptom of a heart attack. You may feel the pain in only one part of your body, or it may move from your chest to your arms, shoulder, neck, teeth, jaw, belly area, or back. The pain can be severe or mild. It can feel like:

- A tight band around the chest
- Bad indigestion
- Something heavy sitting on your chest
- Squeezing or heavy pressure

A heart attack is a medical emergency. If you have the symptoms or are around someone having the symptoms of a heart attack, call 911 or your local emergency number right away. One common reaction is to explain away the symptoms or try to drive home. These are all mistakes. **DO NOT DELAY.** The greatest risk of sudden death is in the early hours of a heart attack.

Review the following table that has the risk factors for a heart attack. We can control some of these factors. Show the amount of control we have by assigning a rating:

- 0 for no control,
- 1 for some control
- 2 for largely controlled
- 3 for total control

Be prepared to discuss how you plan to control the risk factors in your life. Note that there are two types of diabetes - juvenile and adult on-set. People are born with juvenile diabetes and there is nothing they can do to prevent it. Adult on-set comes from

Level 0	Level 1	Level 2	Level 3	Risk Factor
				Age
				Diabetes
				High blood pressure
				Tobacco smoking including secondhand smoke
				Air pollution
				Family history of heart disease
				Lack of exercise
				Obesity
				Stress
				Alcohol — prolonged exposure to high quantities of alcohol

Requirement 1-b

(3) The youth risk factors that affect cardiovascular fitness in adulthood.

You can complete this requirement by searching the Internet. List the factors and highlight any that have not been discussed in this section

Have a dental examination . Get a statement saying that your teeth have been checked and cared for. Tell how to care for your teeth.

Oral hygiene is important to health and appearance. A good oral hygiene program includes brushing after every meal, flossing daily and having dental exams at least once a year. Your dental examine can detect problems early and screen your mouth for any oral cancer.

Your mouth is teeming with bacteria – most of them harmless. Normally the body's natural defenses and good oral health care, such as daily brushing and flossing, can keep these bacteria under control. However, harmful bacteria can sometimes grow out of control and cause oral infections, such as tooth decay and gum disease. Our oral health may affect, be affected by or contribute to various diseases and conditions, including:

Endocarditis - an infection of the inner lining of the heart

Cardiovascular disease - Some research suggests that heart disease, clogged arteries and stroke may be linked to oral bacteria.

Pregnancy and birth - Gum disease has been linked to premature birth and low birth weight.

Other conditions such as immune deficiencies and Alzheimer have also been linked to poor oral hygiene.

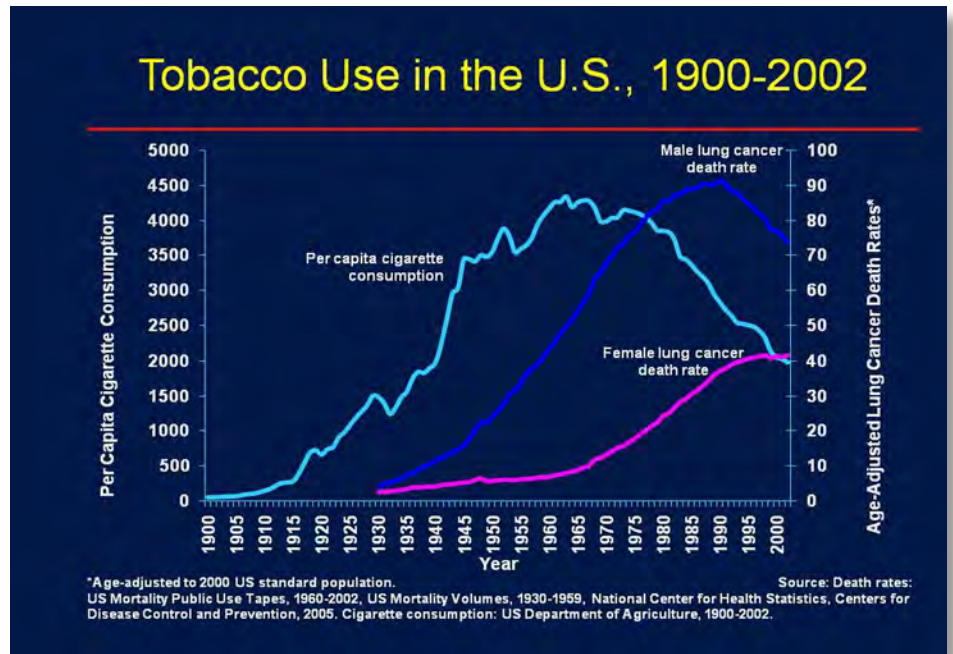
Complete this requirement by having one of your parents send the Personal Fitness merit badge counselor an e-mail or note stating that you follow a oral hygiene program including an annual dental exam.

If you went into a medical library and pages through old medical texts from the nineteenth century, you would find almost no reference to lung cancer. If you keep digging through the medical literature up to the year 1900, there are only references to a total of 100 cases of lung cancer. Even as late as 1912, one researcher could find only 374 cases. However this changed dramatically. A researcher later reviewed 100 years of autopsies in Dresden, Germany, and found that the incidence of lung cancer had gone from 0.3% in 1852 to 5.66% in 1952. What happened in this time period?

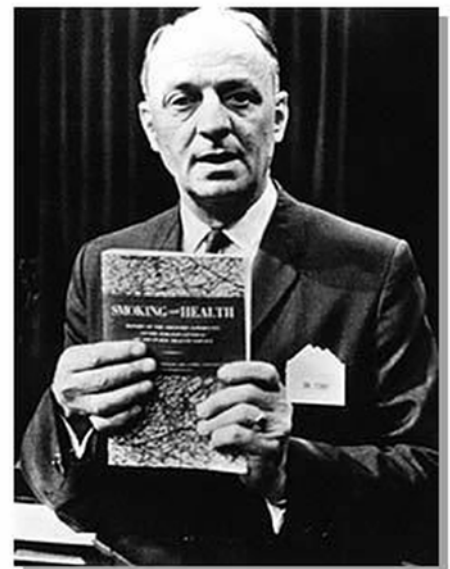
In the nineteenth century, the tobacco was primarily consumed by chewing. When it was smoked, it was primarily by gentlemen in the form of cigars. Cigarettes, which were basically the sweepings off the floor of the cigar factory, were only smoked by the very poor. After the Civil War ended, small factories in North Carolina started bagging flue cured, bright leaf tobacco. This was a milder form of tobacco that people rolled into cigarettes. This was a very competitive market and the most popular brand was called Bull Durham. To compete J. B. "Buck" Duke invested large amounts of money into machines to mass produce cigarettes and started a trend that impacts us to this day. Smoking cigarettes became more popular but the number of cigarettes smoked was still, relatively small. During World War I tobacco companies gave away free cigarettes to millions of soldiers, and it was only after the war that large numbers of Americans, primarily men, smoked cigarettes. This is shown on the chart at the top of the page.



between the onset of smoking and the development of lung cancer, the damage done was not immediately apparent. Doctors were surprised to see a sudden epidemic of lung cancer cases in the 1930's. They quickly discovered the association between smoking and lung cancer. Large statistical studies in England and the United States in the 1950's provided additional evidence that cigarette smoking markedly increased the chances of developing lung cancer. In 1964, the US Surgeon General released a report that officially connected smoking to lung and other forms of cancer and other diseases. By the 1970's, lung cancer had gone from one of the rarest of cancers to the number one killer cancer in the Western world.



Because there is a time lag of approximately 20 to 30 years between the onset of smoking and the development of lung cancer, the damage done was not immediately apparent. Doctors were surprised to see a sudden epidemic of lung cancer cases in the 1930's. They quickly discovered the association between smoking and lung cancer. Large statistical studies in England and the United States in the 1950's provided additional evidence that cigarette smoking markedly increased the chances of developing lung cancer. In 1964, the US Surgeon General released a report that officially connected smoking to lung and other forms of cancer and other diseases. By the 1970's, lung cancer had gone from one of the rarest of cancers to the number one killer cancer in the Western world.



Dr Luther Terry holding the first United States Surgeon General's report on smoking in 1964

Unlike other health hazards, smoking has a marketing department and it has induced many people to start smoking. Once they start, the addiction to nicotine makes it very difficult to quit.

If you look at the Trends in Smoking chart on this page, you will notice that starting in approximately 1990 there is a rise in smoking by high school students that peaked around 1998. Any ideas on why that happened?

In 1988 R. J. Reynolds introduced an advertising campaign in the United States that featured a cartoon mascot, Joe Camel. Court documents from that time show that R. J. Reynolds was targeting people in the 14-24 age group and were highly successful as shown in this chart. A study by the Journal of the American Medical Association showed that by age six, as many children could have easily associated Joe Camel to cigarettes as they could associate Mickey Mouse to Disney. Under pressure from the courts and Congress, R. J. Reynolds pulled Joe the Camel in 1997. What happened to the smoking rate after this? The advertisements get people started and the nicotine traps them.

Fortunately, marketing works two ways. Anti-smoking campaigns and education programs have reduced the number of smokers as shown in the chart on this page.

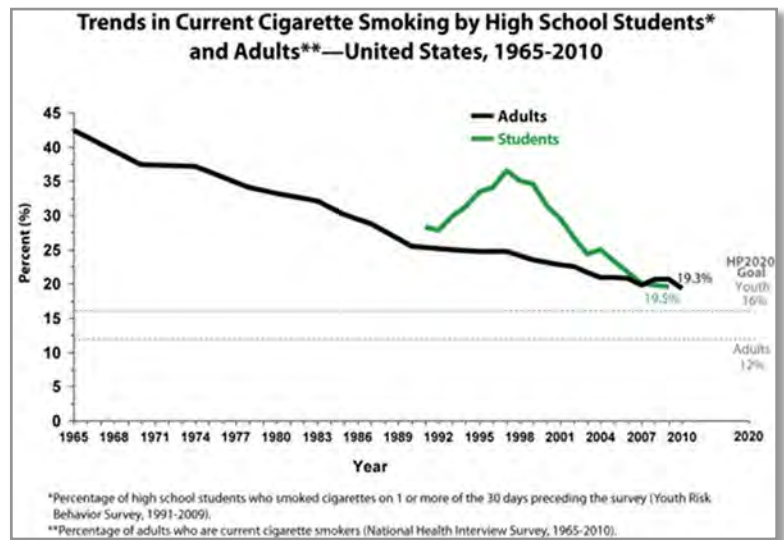
The #1 cause of tobacco use





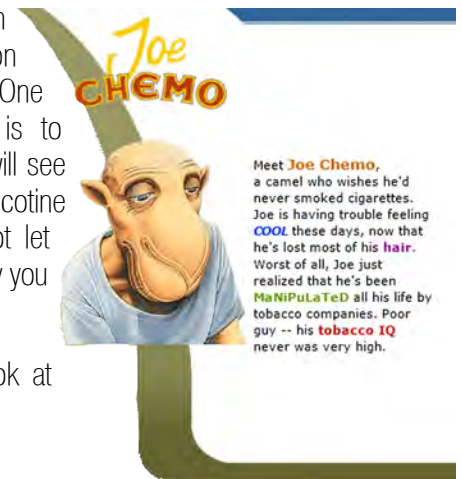

“Tobacco use is unlike other threats to global health. Infectious diseases do not employ multinational public relations firms. There are no front groups to promote the spread of cholera. Mosquitoes have no lobbyists.”

Thomas Zeltner et al., *Tobacco Company Strategies to Undermine Tobacco Control Activities at the World Health Organization*. WHO Special Report, Geneva Switzerland, 2000.



Anti-smoking cartoon from 1964, shortly after the Surgeon's General Report

These campaigns exposed the damage that smoking does to people and the peer pressure some people feel to start smoking or using it in other forms. Ultimately the decision to use tobacco will be up to you. One common mistake teens make is to assume they stop later. As we will see when we look at drug addiction, nicotine makes that very difficult. Do not let these marketing campaigns sway you into a bad decision.



In the next section, we will look at tobacco marketing further.

To demonstrate the impact of marketing, let's look the smoking trend for women. In the early twentieth century U.S.A. women did not smoke in any large numbers. They were therefore, targeted by an intense marketing campaign that started in the 1930's and included seminars on the proper way to smoke and advertisements featuring elegant women in evening dresses smoking Lucky Strikes with long cigarette holders. Later they were the target of another brand, Virginia Slims. In the early 1970's lung cancer in women was still unusual, but by 1985, lung cancer had become the number one cause of cancer death in women

CLUBWOMEN GET LESSONS IN CIGARET SMOKING



HOW NOT TO SNUFF OUT A CIGARET IS ONE OF MANY BAD SMOKING HABITS DEMONSTRATED BY MISS LINDEN

To a small group of the Society of New York State Women, Florence E. Linden, pretty registered nurse and actress, recently

EXHALING WITH UNDERLIP EXTENDED RESULTS IN THIS



lectured on the etiquette of cigarette smoking. The women were mostly over 40. The lecture was mostly about habits and manners which make smoking objectionable. The

anomaly in these statements derives from the fact that 90 percent of women over 45 do not smoke and that the lecture was sponsored by Philip Morris & Co. During the past year Miss Linden has toured the country lecturing to clubs, department-store employees, nurses, charm-school students on smoking manners. Women are the greatest potential

market for future increase in cigaret sales.

But women's bad smoking habits have furnished the anti women smoking campaigners with their best ammunition. Therefore, in her lectures, Miss Linden smartly stresses all the things not to do with a cigaret.



WRONG

Affected smoking manners brand one as a novice. Common affectations are long holders, cupping hands over the cigaret and using fingers other than index and third.



RIGHT

Casual Manner, cigaret between index and third finger, with smoke blowing away from smoker, is approved fashion. Except at lectures, Miss Linden does not smoke.

Life Magazine 1939

One of the biggest contributor to developing all types of cancer and cardiovascular disease is using tobacco, especially smoking cigarettes. Because it is a legal product, it is marketed in various forms and made to look glamorous. In fact, nicotine is one of the most addictive substances that exists. It is very difficult to stop using tobacco once you start, so it is much better never to start in the first place.



TOMMY THE TENDERFOOT No. 9 TOMMY TRIES SMOKING
Tommy thought smoking would give him some fun.
But he quickly wished he had never begun.

The Too Late Show is produced by the Mississippi State Department of Health. Watch Macolm Brody Clips 01 and 02 then answer the following question. <http://www.toolateshow.com/watch.php?id=37>

What common food ingredient is added to cigarettes and what effect does it have?

Watch Macolm Brody Clips 02 and answer the following question.

<http://www.toolateshow.com/watch.php?id=38>

What common cleaning agent is added to cigarettes and what effect does it have? What is a starter brand and what is it's purpose? What did you learn from these videos?



What is drug addiction?

Addiction is defined as a chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences. It is considered a brain disease because drugs change the brain—they change its structure and how it works. These brain changes can be long lasting, and can lead to the harmful behaviors seen in people who abuse drugs.

Why do people take drugs?

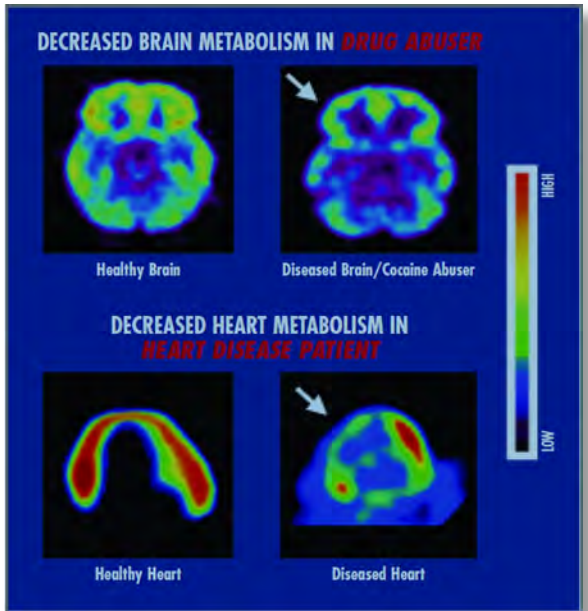
In general, people begin taking drugs for a variety of reasons:

To feel good. Most abused drugs produce intense feelings of pleasure. This initial sensation of euphoria is followed by other effects, which differ with the type of drug used. For example, with stimulants such as cocaine, the “high” is followed by feelings of power, self-confidence, and increased energy. In contrast, the euphoria caused by opiates such as heroin is followed by feelings of relaxation and satisfaction.

To feel better. Some people who suffer from social anxiety, stress-related disorders, and depression begin abusing drugs in an attempt to lessen feelings of distress. Stress can play a major role in beginning drug use, continuing drug abuse, or relapse in patients recovering from addiction.

To do better. The increasing pressure that some individuals feel to chemically enhance or improve their athletic or cognitive performance can similarly play a role in initial experimentation and continued drug abuse.

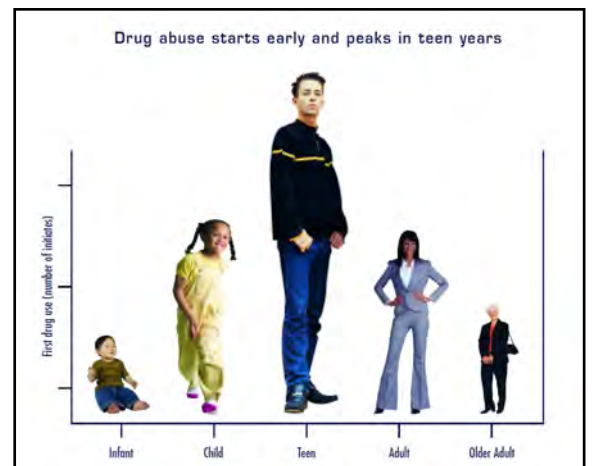
Curiosity and “because others are doing it.” In this respect adolescents are particularly vulnerable because of the strong influence of peer pressure; they are more likely, for example, to engage in “thrilling” and “daring” behaviors.



EXAMPLES OF RISK AND PROTECTIVE FACTORS		
Risk Factors	Domain	Protective Factors
Early Aggressive Behavior	Individual	Self-Control
Poor Social Skills	Individual	Positive Relationships
Lack of Parental Supervision	Family	Parental Monitoring and Support
Substance Abuse	Peer	Academic Competence
Drug Availability	School	Anti-Drug Use Policies
Poverty	Community	Strong Neighborhood Attachment

People who experiment with drugs risk becoming addicted to drugs. Research into drug addiction have identified risk factors that lead to addiction. These are social and emotional factors. If a person continues to use drugs, then changes will happen to the brain that will lead to physical addiction. The combination of emotional and physical dependence on drugs makes it very difficult to stop.

Teenagers are more likely to abuse drugs than any other age group. During this time period, people have more independence than younger children, but do not have the experience or reasonability of adults. It is very important to avoid the temptation of drug abuse during your teen years, because the choices you make in this period can affect the rest of your life.

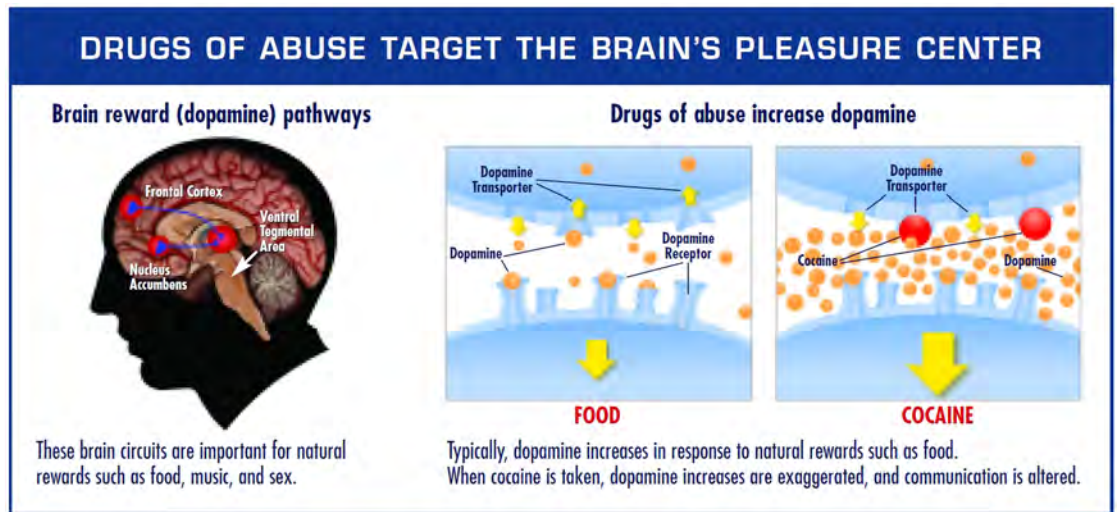


How do drugs work in the brain to produce pleasure?

Most drugs of abuse directly or indirectly target the brain's reward system by flooding the circuit with dopamine. Dopamine is a neurotransmitter present in regions of the brain that regulate movement, emotion, cognition, motivation, and feelings of pleasure. The over stimulation of this system, which rewards our natural behaviors, produces the euphoric effects sought by people who abuse drugs and teaches them to repeat the behavior.

How does stimulation of the brain's pleasure circuit teach us to keep taking drugs?

Our brains are wired to ensure that we will repeat life-sustaining activities by associating those activities with pleasure or reward. Whenever this reward circuit is activated, the brain notes that something important is happening that needs to be remembered, and teaches us to do it again and again, without thinking about it. Because drugs of abuse stimulate the same circuit, we learn to abuse drugs in the same way. Why are drugs more addictive than natural rewards? When some drugs of abuse are taken, they can release 2 to 10 times the amount of dopamine that natural rewards do. In some cases, this occurs almost immediately (as when drugs are smoked or injected), and the effects can last much longer than those produced by natural rewards. The resulting effects on the brain's pleasure circuit dwarfs those produced by naturally rewarding behaviors such as eating and sex. The effect of such a powerful reward strongly motivates people to take drugs again and again.



This is why scientists sometimes say that drug abuse is something we learn to do very, very well.

Alcohol and illicit drug abuse can damage your body and lead to pain and suffering in you and your family. There are laws regulating the use of these substances and if you break the law, you can be prosecuted. A conviction can impact the rest of your life and limit your school and job opportunities. Besides the harming effects of the drugs themselves, street drugs do not have anyone regulating what goes into them. They can have additional substances that can also do harm.



Recently there has been an increase in the abuse of prescription drugs. Prescription drugs that are often abused include pain killers, steroids and stimulants. Pharmaceutical companies research and develop drugs to treat diseases. In this process, they study the impact of the drug including the side effects. When your physician prescribes a drug, it is important to follow the instructions and use it as intended. Do not use other people's prescriptions. Do not ask for or use prescriptions that you do not need.

These substances impair both your physical and mental abilities. You should never drive or ride in a car with someone who is under the influences of alcohol or drugs. In 2010, US adults drove 112 million times after drinking too much. Alcohol-impaired drivers are involved in about 1 in 3 crash deaths, resulting in nearly 11,000 deaths in 2009.

To learn more about the dangers of drug abuse, visit the National Institute of Drug Abuse website and go to the Facts on Drugs section.

<http://teens.drugabuse.gov/facts/index.php>



FACTS ON DRUGS
Anabolic Steroids
Brain & Addiction
Ecstasy/MDMA
HIV/AIDS - the Link
Inhalants
Marijuana
Prescription Drug Abuse
Stimulants
Tobacco Addiction
Other Drugs

Select one of the drugs listed and report on it in the section below. Include:

- What it is
- How it is abused
- Effects of use

Include a summary of the other information in the section.



Explain to your merit badge counselor verbally or in writing what personal fitness means to you, including:

a. Components of personal fitness

Personal fitness is also called wellness and physical fitness is just one element. Wellness is the integration of mind, body, and spirit. It includes a positive approach to life and health that helps to maximize the individual's potential. When we balance the physical, spiritual, occupational, social, intellectual, environmental, emotional and financial aspects of life, we achieve true wellness.

Physical—Recognizing the need for physical activity, healthy foods and sleep

Spiritual—Expanding our sense of purpose and meaning in life

Occupational—Personal satisfaction and enrichment from one's work

Social—Developing a sense of connection, belonging, and a well-developed support system

Intellectual —Recognizing creative abilities and finding ways to expand knowledge and skills

Environmental Good health by occupying pleasant, stimulating environments that support well-being

Emotional—Coping effectively with life and creating satisfying relationships

Financial—Satisfaction with current and future financial situations



These components of wellness are espoused by many experts and organizations, although they may be stated differently. Some of the components may be combined into one aspect. For example financial security can be viewed as an element of emotional well being. Dating back to Lord Baden Powell, the Boy Scouts also includes these aspects in the overall program. Complete the table below by finding one place where each of these aspects can be found. This can be in the guiding principles such as the Law, Oath, Motto or in a specific merit badge or rank requirement. Please include the actual specific reference, such as *a Scout is Trustworthy*. For obvious reasons, do not include the Personal Fitness merit badge.

Wellness Element	Boy Scout Principle or Requirement
Physical	
Spiritual	
Occupational	
Social	
Intellectual	
Environmental	
Emotional	
Financial	

b. Reasons for being fit in all components.

Match the following aspects of Personal Fitness by putting the letter next to description that best fits.

Physical	Spiritual	Occupational	Social	Intellectual	Environmental	Emotional	Financial	
								Ensuring you have the means to meet you and your family's short and long term needs and not envying things you cannot afford
								Get involved in your community
								Keeping a positive attitude
								Learning through varied experiences – reading, writing, sharing and exploration
								Being open to different cultures and religions
								Eating properly
								Being aware of the natural environment you live in
								Finding satisfaction and worth in your work

Explain why we need a balanced approach to all of these aspects of wellness.



c. What it means to be mentally healthy



The World Health Organization defines good mental health as a state of well-being in which a person can:

- Realizes his or her own abilities
- Can cope with the normal stresses of life,
- Can work productively and fruitfully
- Able to make a contribution to his or her community

In this positive sense, mental health is the foundation for well-being and effective functioning for an individual and for a community. Your body's physical health is connected and cannot be separated from your mental health. One affects the other. For example, proper exercise can help with mental health problems. On the negative side, stress and worry can worsen chronic physical issues such as heart disease and high blood pressure.

Just as with our physical health, we would rather prevent problems than to try and cure them after they occur. The elements of a good mental health program include:



- Do things that positively impact others. Being useful to others and being valued for what you do can help build self-esteem.
- Practice self-discipline. Self-control naturally leads to a sense of hopefulness and can help you overcome despair, helplessness, and other negative thoughts.
- Learn or discover new things. Think of it as intellectual candy. Try taking a class, joining a club that interest you or reading a book on a topic that interests you. You can also visit a museum, learn a new language, or simply travel somewhere new.
- Enjoy the beauty of nature or art. Studies show that simply walking through a garden can lower blood pressure and reduce stress. The same goes for strolling through a park or an art gallery, hiking, admiring architecture, or sitting on a beach.

- Manage your stress levels. Stress takes a heavy toll on mental and emotional health, so it's important to keep it under control. While not all stress can be avoided, stress management techniques can help you bring things back into balance.

- Limit unhealthy mental habits like worrying. Try to avoid becoming absorbed by repetitive mental habits – negative thoughts about yourself and the world that suck up time, drain your energy, and trigger feelings of anxiety, fear, and depression.

- Accepting and Expressing Emotions. If you bottle up your feelings, they tend to grow and lead to bigger problems. Find a constructive way to express your emotions. These include talking to your parents or a trusted religious or counselor. Also nonverbal methods, such as writing or creating artwork, can be another way to express your emotions.

- Building and Maintaining Healthy Relationships - Humans are inherently social beings and benefit from having friends. Make sure your friends also have a positive attitude and behaviors.



**A SCOUT IS A "FRIEND OF ALL THE WORLD" AND "A BROTHER TO EVERY OTHER SCOUT."
THE WAY TO HAVE A FRIEND IS TO BE ONE."**

Through out your life you will feel stress to be liked, do well in school or work, get along with your family and make big decisions. You cannot avoid most of these pressures, and worrying about them is normal. But feeling very sad, hopeless or worthless could be warning signs of a mental health problem. Mental health problems are real, painful and sometimes severe. You might need help if you have the signs mentioned above, or if you

- Often feel very angry or very worried
- Feel grief for a long time after a loss
- Think your mind is controlled by others or out of control
- Abuse alcohol or drugs
- Exercise, diet and/or binge-eat obsessively
- Hurt other people or destroy property
- Do reckless things that could harm you or others



Mental health problems can be treated. To find help, talk to your parents, school counselor or health care provider.

Review the steps to maintain good mental health that are described on the previous page. Pick one or two items and list specific things you will to do to improve your mental health.

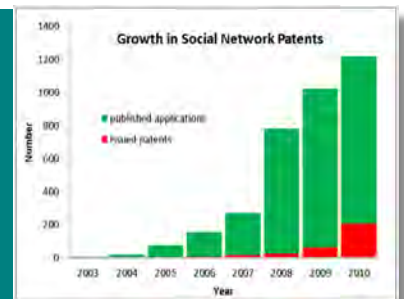


There is been an exponential growth in social media which is the use of web-based and mobile technologies to turn communication into interactive dialogue. These include blogs,

wikis and applications such as Facebook and Twitter. The graph on the right shows this growth from 2004. While social media has many benefits, it also comes with dangers. Keep in mind that the first civilizations date to approximately 12000 BCE. We have been interacting face to face with people much, much longer than we have been



twittering. People need to have real relationships, not just virtual ones via electronics. Spending too much time on social media to the detriment of personal contact does not promote good mental health. A recent study from



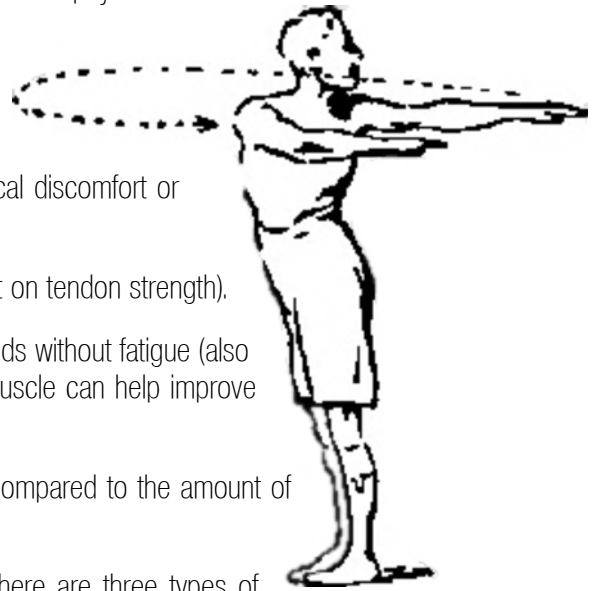
researchers at the University of Leeds finds that people who compulsively browse, chat and play online have higher rates of moderate to severe depression than people who are not compulsively driven to use the internet.

Enjoy the internet and social media, but do not let it run your life.

d. What it means to be physically healthy and fit

Physical fitness is a measure of the body's ability to function efficiently and effectively in work and leisure activities, to be healthy, to resist diseases, and to meet emergency situations. There are five components of physical fitness and here are the definitions:

- Cardiovascular fitness - The ability of the body to supply oxygen via the respiratory and circulatory systems during exercise.
- Flexibility Training - The range of motion of a joint without causing physical discomfort or pain.
- Strength Training - The ability of the muscle to exert force (also dependent on tendon strength).
- Muscular Endurance - The ability of the muscle to perform for longer periods without fatigue (also linked to good cardiovascular fitness as the transport of oxygen to the muscle can help improve performance).
- Body Composition - Body composition is the amount of fat in the body compared to the amount of lean mass (muscle, bones, organs etc.).



We manage our physical fitness by a combination of exercise and diet. There are three types of physical activities:



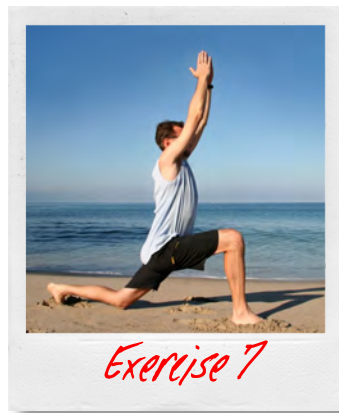
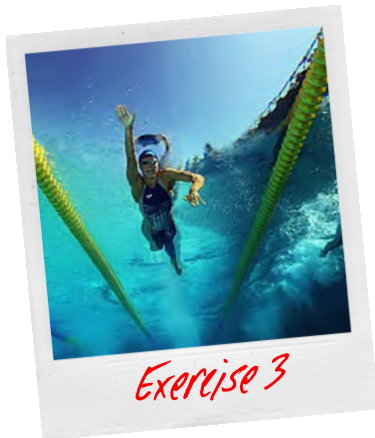
- Aerobic exercise - This type of exercise increases your heart rate, works your muscles, and raises your breathing rate. Aerobic literally means "living in air" and refers to the use of oxygen to adequately meet energy demands during exercise. Generally, aerobic exercise is light-to-moderate intensity activities that can be performed for extended periods of time. Aerobic exercise benefits your cardiovascular system and should be a part of any workout routine.
- Strength or anaerobic exercise is used by athletes in non-endurance sports to promote strength, speed and power and by body builders to build muscle mass. Anaerobic activities are generally short duration, high intensity activities, which last from mere seconds up to about 2 minutes. Anaerobic means without oxygen and the activities do not last long enough to replace the oxygen in your muscles.
- Flexibility refers to the range of movement in a joint or series of joints, and the length in muscles that cross the joints. Flexibility can be improved by specific exercises and by combining stretching in your exercise program. There are different types of stretching and it is important to choose the right type at the right point in your exercise.

The most commonly known is called static stretching. This involves gradually easing into the stretch position and holding the position. You should not stretch cold muscles, so do not use static stretching until your muscles are warmed up. You should also use static stretching at the end of your exercise to lengthen the muscles. Dynamic stretching consists of controlled leg and arm swings that take you gently to the limits of your range of motion. Start your exercise with light dynamic stretching or aerobic exercises to warm up your muscles then do your static stretching. Conclude your exercise program with static stretching.

A complete workout program combines all three types of activities and exercises all the muscles in your body. You should get a good exercise book and develop a balanced program. The goal is to establish a routine you can maintain for the rest of your life. Therefore do not start too ambitious and work yourself to exhaustion. You will become discouraged and will not be able to maintain this over the long haul. Start out slow and build yourself up. In addition, choose an exercise program that interests you and vary it so it does not get stale. Your goal is to make your exercise program something you enjoy and not another chore.

Aerobic	Anaerobic	Flexibility	
			Exercise 1
			Exercise 2
			Exercise 3
			Exercise 4
			Exercise 5
			Exercise 6
			Exercise 7
			Exercise 8

Pick the type of exercise that *best* fits the one shown in the photograph. For requirement 7 you will need to develop a 12-week exercise program. Use what you learned in this section to develop that plan.





Visceral fat, also known as organ fat, is located inside the abdominal cavity and packed in between internal organs and torso. Around organs, it provides protective padding. However, its main function is to be a reserve of

lipids, which can be burned to meet the energy needs of the body. This was important in primitive times when food was not readily available. It gave the body a way to store energy until it needed it. As we get older, we will accumulate visceral fat if our level of physical activity and diet are out of balance. When you are young, your body burns energy to help you grow up. Once you reach maturity and stop growing, if you do not adjust your habits you can start developing excess fat in your stomach area. A good rule to remember is when you stop growing up, you start growing out.

Unfortunately this has become common in the United States where food is readily available for most people. Recent studies have shown that excessive visceral fat is not healthy. For example a study at the University of

Alabama at Birmingham, researchers took 137 men of all ages and sizes and used seven different measurements to determine their risks of cardiovascular disease. The single best sign of multiple heart-disease risks was not the guys' family histories or their cholesterol profiles. It was the amount of abdominal fat they carried

There is a common myth that sit-ups will make this go away. Abdominal exercises like sit-ups and crunches will strengthen the muscles in your stomach, but they will not get rid of a pot belly. The only way to do that is by controlling your diet and doing aerobic exercise that burns calories. Sit-ups and crunches can give you a washboard stomach, but you have to get rid of the fat for people to see them.



**Rowan did his duty, kicking the IM out of the word IMPOSSIBLE
Any fellow who acts like that is certain to get on.**

e. What it means to be socially healthy.

The World Health Organization says "health is a state of complete physical, mental, and *social well-being* and not merely the absence of disease or infirmity". In other words, everything that makes up your community, society and culture has an impact on your health. A socially healthy person denotes an individual who has an active and stable social lifestyle with others, which suggests that the individual has mental stability and health. You might ask, "What does society have to do with my health?"

The fact is:

- Where we live
- The experiences we have
- The messages we get about who we are as individuals

can very much affect our physical and mental health.

How does society affect health?


Society means different things to different people. Here we are talking about the political, cultural, legal, and environmental world that you live in. So your health is affected by all the rules, ideas, norms, guidelines, information and environments you encounter everyday.

This includes influences like:


- Government policy decisions, such as education programs
- Cultural values such as beliefs about ethical behavior
- Media – portrayal of "the perfect person", what "the truth" is, who controls the information you get can affect your attitude
- Environment – air pollution, opportunities to spend time in nature

These are all things that have an impact on how we live our lives and look after our health. Social well-being is when you:

- Feel like you are a valued part of your community
- Live in a safe and healthy environment
- Feel like you have control of your life
- Can make healthy choices

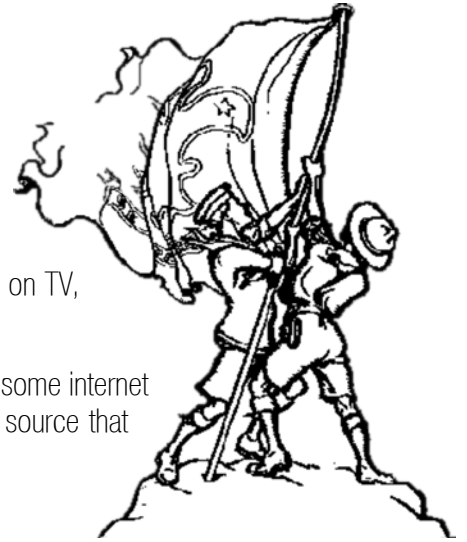


A researcher in Societal Health reported that one young woman said she felt bad about how she looked because of all the images of perfect bodies in magazines. We cannot all have bodies like the sports star, movie stars and models we see in the media. To achieve that kind of results takes a great deal of time in the gym and some help from Mother Nature along the way. In the worse case people have harmed their body with steroids or extreme diets to achieve this look. The physical fitness goals for the Personal Fitness merit badge and this workbook is good health and maintaining mobility throughout your life. Do not let any negative thoughts or false goals creep in and crowd out your



Tips to stay socially healthy

- Think about what you have control over in your life.
- Take charge of your own life - make positive choices for yourself.
- Get involved in your community
- Do not believe everything you hear - be prepared to question and verify what you see on TV, on movies, read in the newspaper and what you hear on the radio.
- Get informed about issues that affect you. Try some alternative media like magazine or some internet sites that may have a different point of view than what you usually see or a scholarly source that can have more detailed research
- Get out of the house and do as much as you can with other people.
- Give positive health messages to yourself and the people you interact with.
- Support others and make sure you get support yourself.
- Respect yourself and others for your individuality and uniqueness.
- Do all you can to look after the environment.



Write and be prepared to discuss what you can do to prevent social, emotional or mental problems. Include what you have learned from this section and short-term and long-term things you can do to improve these aspects of personal fitness. Commit to one thing that you will start and continue.

Read this story about a guy named Randall and answer the questions at the end of the story.



Randall is just starting his Junior year in high school and he has realized that he will have to start submitting college applications soon. His family has always attended State U., but he has heard on the news that a bill the State Legislature just passed a bill that raised the minimum grade point average for early acceptance to the university. According to his friends, if you do not get early acceptance, it is next to impossible to get in because the so many students are applying. This has made him start worrying more and more about getting accepted to school. The other day, his father was listening to a radio commentator who seemed to talk forever about how State U will no longer be educating students from his home state anymore. That made Randall feel worse.

Outside of school, Randall likes to play video games or go see movies with his friends. However the last time they got together, it seemed that everyone just wanted to complain about the new admission restrictions and school in general. When he got home, he felt more discouraged than ever.

This has started to affect Randall and he has started spending more time at home on his computer or just watching television. He has always dreamed of attending the big games and cheering for the Fighting Porcupines, but his is afraid that will not happen now. He feels that his family will be disappointed if he does not attend State U. He plans to write his State Legislator and complain about the bill, but he does not feel that it will effective because the bill has already been passed and he does not even vote yet.

This story is typical of the type of issues that happen in life that affect our emotional and social health. It is important to learn how to deal with this type of situation and not let it affect your well being. Review the tips on the previous page about social health and answer the following questions.

What information would you suggest to Randall that he should research or confirm in order to better understand his situation. Include where he would get additional information and what you think of his current sources of information.

What are things that Randall has control over and what things does he not have control over?

What advice would you give Randall, including if he does not accepted to State U ?



**Reinhold Niebuhr.
Circa 1941**

You know what to do
 Fill this out by
 ranking yourself on
 each question

		No problems	Could do a little better	Just Middling	On the road to ruin	I need to change my ways - now
(1)	Are you free from all curable diseases?					
(2)	Are you living in such a way that your risk of preventable diseases is minimized?					
(3)	Are you immunized and vaccinated according to the advice of your health-care provider?					
(4)	Do you understand the meaning of a nutritious diet and know why it is important for you?					
(5)	Does your diet include foods from all food groups?					
(6)	Are your body weight and composition what you would like them to be?					
(7)	Do you know how to modify your body weight and composition safely through exercise, diet, and behavior modification?					
(8)	Do you carry out daily activities without noticeable effort?					
(9)	Do you have extra energy for other activities?					
(10)	Are you free from habits relating to poor nutrition?					
(11)	Are you free from the use of alcohol?					
(12)	Are you free from the use of tobacco?					
(13)	Are you free from abusing drugs?					
(14)	Do you avoid other practices that could be harmful to your health?					
(15)	Do you participate in a regular exercise program or recreational activities?					
(16)	Do you sleep well at night and wake up feeling refreshed and energized for the new day?					
(17)	Are you actively involved in the religious organization of your choice and do you participate in its youth activities?					
(18)	Do you spend quality time with your family and friends in social and recreational activities?					
(19)	Do you support family activities and efforts to maintain a good home life?					



At this point in your life, your parents are a major influence in your Personal Fitness. Who told you to go to bed last night? Who took you to the doctor for your vaccines? But at some point you will go to college or take some another path and you will be responsible for your own Personal Fitness along with a few other things like laundry. One day you will look around notice that no one has cooked your dinner. If you want to eat, you need to take care of it yourself. If all you know how to do is heat up a frozen dinner, then your diet, taste buds and ultimately your health will suffer.

Yum!



Review the list you just completed and circle the five items that you think will be most challenging once your are on your own.



	Are you free from all curable diseases?		Are you free from the use of alcohol?
	Are you living in such a way that your risk of preventable diseases is minimized?		Are you free from the use of tobacco?
	Are you immunized and vaccinated according to the advice of your health-care provider?		Are you free from abusing drugs?
	Do you understand the meaning of a nutritious diet and know why it is important for you?		Do you avoid other practices that could be harmful to your health?
	Does your diet include foods from all food groups?		Do you participate in a regular exercise program or recreational activities?
	Are your body weight and composition what you would like them to be?		Do you sleep well at night and wake up feeling refreshed and energized for the new day?
	Do you know how to modify your body weight and composition safely through exercise, diet, and behavior modification?		Are you actively involved in the religious organization of your choice and do you participate in its youth activities?
	Do you carry out daily activities without noticeable effort?		Do you spend quality time with your family and friends in social and recreational activities?
	Do you have extra energy for other activities?		Do you support family activities and efforts to maintain a good home life?
	Are you free from habits relating to poor nutrition?		

Complete this exercise by explaining how you will address these challenges.



So far we have talked about our physical, mental and emotional fitness. The next thing we will talk about nutrition and what we put in our body. As a point of reference, early man was very active and spent much of their time hunting and gathering food. Their diets were fairly simple and typically they did not overeat because there was not that much food available. If you wanted to super size your meal, you had to go hunt the food. Obviously their food was fresh and fast food meant something very different to them. Not that all things were good. There were more vulnerable to food shortages and, as we have seen, they were subject to infectious disease. The thing to keep in mind is that over the thousands of years we lived as hunter gatherers, our bodies adapted to that lifestyle and diet. Modern research has shown that if eat smaller portions and include more vegetables, fruits and whole grains, we will live a healthier life.



Do you ever think about why you eat? The easy answers are because you are hungry, tired and your stomach is rumbling. Sometimes you might also eat because you are bored, sad or happy, just because it's lunchtime, or because that chocolate-covered donut looks so good.

Those are some of the emotional and physical reasons why you eat, but do you ever put much thought into why your body needs food? Not just any food, by the way, but healthy, good-for-you food? Why is good nutrition important?

Good Nutrition Provides Energy

The foods you eat provide the energy your body needs to function. Just like you need to put fuel in your car or recharge your cell phone battery, your body needs to be fed energy-providing foods every day. The main form of energy for your body is carbohydrates. Your body has the easiest time digesting carbohydrates like sugar and starch. Carbohydrates are broken down into individual glucose, fructose or galactose units. Glucose is your body's favorite form of energy. It provides you the energy to run. A very important thing for ancient man who was hunting or being hunted and for cowboys who could not afford horses. If you don't get enough carbohydrates, your body can make glucose from protein or fat -- and if you get too many carbohydrates, your body is very good at storing them as fat. Maybe too good.



Good Nutrition Provides Raw Materials

Protein in the foods you eat is broken down into individual amino acids. Your body uses the amino acids to build and repair the various parts of your body. Your muscles contain lots of protein, and you need to replenish that protein through your diet. Your body also needs protein for components of your immune system, hormones, nervous system, and organs.



Another raw material your body needs is calcium. Calcium has several functions in your body, but it's best known as the mineral that is stored in your bones and teeth. You need calcium from your diet to keep your bones and teeth strong.

Your body also needs fats to be healthy. Membranes that contain fats surround all the cells of your body. Your brain has fatty acids, and fats are also needed to signal hormones. Be careful about this raw material. On a whole American's eat too much meat and fat. We will get to a balanced diet a little later.

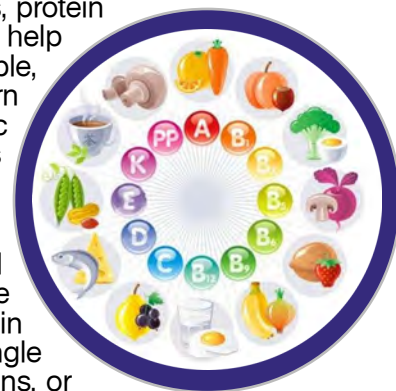


The Little Helpers

Vitamins and minerals you get from your diet are just as important as carbohydrates, protein and fats; however, you only need them in small amounts. Vitamins and minerals help chemical reactions in the body happen a lot faster. For example, many of the B complex vitamins help your body burn carbohydrates for energy. Vitamin A is needed for vision, zinc is involved in many metabolic processes, and vitamin C helps keep connective tissue strong and your immune system functioning.



When you read vitamins, most people immediately think Fred Flintstone. Actually your diet should provide adequate amounts of all of these little helpers. An unhealthy diet may make your body deficient in one or more vitamins or minerals. There is nothing wrong with taking multivitamins or single ones, like Vitamin C supplements, within bounds. Do not take huge doses of vitamins, or anything for that matter without guidance from your doctor.



Above and Beyond the Basics

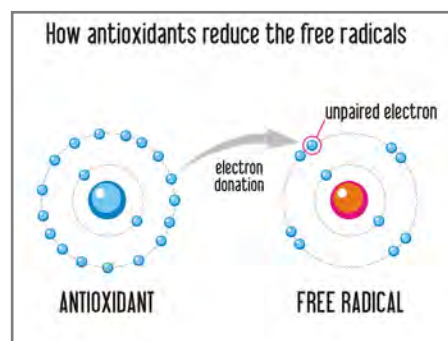
Good nutrition provides more than energy, structural components, vitamins and minerals. There are other substances in the foods that you eat that have become better known over the last few years.



Phytochemicals are found in the colorful parts of fruits and vegetables. Although they aren't required for body functioning, they may have a very powerful impact on

your health. For example, quercetin (found in red apples) functions like an antihistamine and as an anti-inflammatory effect.

Antioxidants help protect your body from damage that comes from the sun, pollution, smoke, and poor dietary choices. They are found in the phytochemicals of fruits and vegetables, as well as some vitamins and amino acids.



Balanced Diet

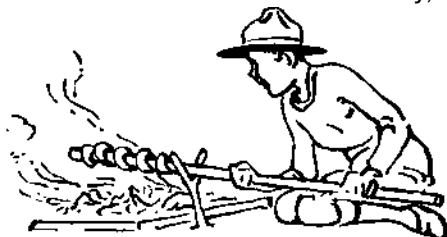
When is the last time you went to your favorite eatery and asked for a plate of protein, with a side of antioxidants with a bowl of carbohydrates for dessert? Probably never. Instead you ate a piece of apple pie, a steak, or a lump of mashed potatoes. Most of the foods you eat are made up of varying amounts of all three of these nutrition components. Good nutrition means getting the right balance of carbohydrates, fats and proteins, plus all of the required vitamins and minerals. Great nutrition means getting a lot of the phytochemicals and antioxidants, too.

That chocolate covered donut mentioned earlier contains lots of sugar and white flour; if you eat too many of them, you will take in extra calories that will be stored in your body as fat. The donut also contains lots of fats, probably trans-fats, that can raise your risk of heart disease.

The donut does not provide you with much in the way of vitamins, minerals or other substances, such as natural antioxidants or healthy fatty acids. When you think of it this way, that donut may not sound so good any more.

A good source of carbohydrates would be almost any fruit or vegetable. These options allow you to get the carbohydrates you need for energy, plus fiber for a healthy digestive system, vitamins, minerals and anti-oxidants. About half of your daily calories should come from carbohydrates. Those carbs should come from fruits, vegetables and 100% whole grain breads and cereals -- not from candy, sodas and pastries.

Not too many of these!



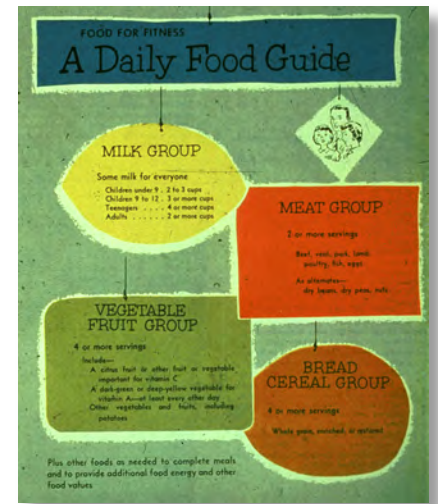
The Balanced Diet

We talked about the raw materials in food and how we need all of them, but in the proper proportions. Between 1916 and 1930, The United States Department of Agriculture (USDA) published guideline on food for young children and a more general one for selecting food. The brochures established food groups, provided guidance on household measures and focused was on what they called protective foods.



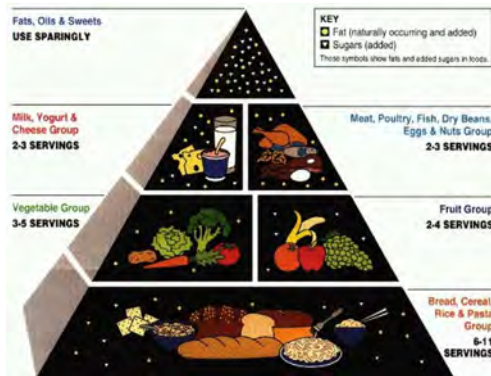
By the 1940s, the food groups had evolved into the seven groups. The USDA produced *A Guide to Good Eating* that outlined the Basic Seven Foundation diet for nutrient adequacy. It stressed including the daily number of servings needed from each of seven. You can also notice it says eat anything else you want. The country was just coming out of the Great Depression and obesity was obviously not a concern.

One of long lasting guides started in 1956 and lasted into the 1970s. It was called *Food for Fitness, A Daily Food Guide*. In this edition, the Basic Seven and been reduced to the Basic Four. Like the previous edition, this diet approach specified amounts from four food groups to achieve nutrient adequacy. There was still no guidance on appropriate fats, sugars, and calorie intake



Over the years, different approaches were tried. The number of food groups continued to change, but the most striking change was the recommend limits on the intake of fats, sweets, and alcohol.

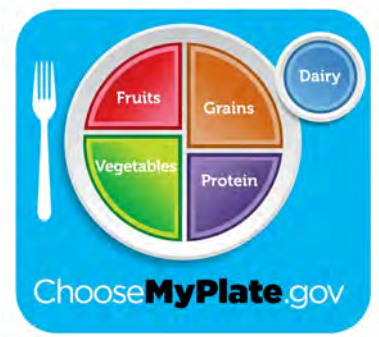
In 1992 the Food Pyramid was introduced. This was a total diet approach with six food groups and goals for both nutrient adequacy and moderation. It was developed using consumer research so the illustration better demonstrated the concepts of variety, moderation, and proportion.



In 2005, the basic pyramid was changed to account for different lifestyles. It was called MyPyramid and provided dietary guidelines at twelve calorie levels. It added a band for oils and the concept of physical activity.



The latest version, which started in 2011, went away from pyramids and used a plate, not unlike the 1940 version. This version is called MyPlate and it uses a simple icon to remind people to eat healthy, but it does not provide any guidance on how to do it. So how do you know what to eat? You go to their website and enter your vital information. Then it tells what a balanced diet means for you. Something that would have been really hard to do in 1916, when the USDA published their first guide.



Guess what, you are going to get to try it!

10
tips

Nutrition
Education Series

choose MyPlate

10 tips to a great plate



Making food choices for a healthy lifestyle can be as simple as using these 10 Tips. Use the ideas in this list to *balance your calories*, to choose foods to *eat more often*, and to cut back on foods to *eat less often*.

1 balance calories

Find out how many calories YOU need for a day as a first step in managing your weight. Go to www.ChooseMyPlate.gov to find your calorie level. Being physically active also helps you balance calories.

2 enjoy your food, but eat less

Take the time to fully enjoy your food as you eat it. Eating too fast or when your attention is elsewhere may lead to eating too many calories. Pay attention to hunger and fullness cues before, during, and after meals. Use them to recognize when to eat and when you've had enough.



3 avoid oversized portions

Use a smaller plate, bowl, and glass. Portion out foods before you eat. When eating out, choose a smaller size option, share a dish, or take home part of your meal.

4 foods to eat more often

Eat more vegetables, fruits, whole grains, and fat-free or 1% milk and dairy products. These foods have the nutrients you need for health—including potassium, calcium, vitamin D, and fiber. Make them the basis for meals and snacks.



5 make half your plate fruits and vegetables

Choose red, orange, and dark-green vegetables like tomatoes, sweet potatoes, and broccoli, along with other vegetables for your meals. Add fruit to meals as part of main or side dishes or as dessert.

6 switch to fat-free or low-fat (1%) milk

They have the same amount of calcium and other essential nutrients as whole milk, but fewer calories and less saturated fat.



7 make half your grains whole grains

To eat more whole grains, substitute a whole-grain product for a refined product—such as eating whole-wheat bread instead of white bread or brown rice instead of white rice.

8 foods to eat less often

Cut back on foods high in solid fats, added sugars, and salt. They include cakes, cookies, ice cream, candies, sweetened drinks, pizza, and fatty meats like ribs, sausages, bacon, and hot dogs. Use these foods as occasional treats, not everyday foods.

9 compare sodium in foods

Use the Nutrition Facts label to choose lower sodium versions of foods like soup, bread, and frozen meals. Select canned foods labeled “low sodium,” “reduced sodium,” or “no salt added.”



10 drink water instead of sugary drinks

Cut calories by drinking water or unsweetened beverages. Soda, energy drinks, and sports drinks are a major source of added sugar, and calories, in American diets.

You can start by going over to <http://www.choosemyplate.gov/>. You can use the references there, along with the last three pages, and the official merit badge brochure to help you out.

Explain the importance of good nutrition and how it relates to personal fitness.

What food is a natural source of vitamin B₁₂? Hint there is a diagram in this workbook that can help.

What fraction of your grains, should be whole grains?



Looking at the different guides from USDA, which one did you find most helpful and why?

What do antioxidants attack? Which food group naturally supplies them?

You accidentally turned yourself into an ancient hunter gatherer. You realize that a very large animal has decided to hunt and gather you. It is a good time to run away. You are very happy that you loaded up on one particular raw material from your food. Which one is it and why?

Using your trusty computer, let's determine what your food plan should look like.

At MyPlate.gov, search for Food Plan or go to this website:

<http://www.choosemyplate.gov/myplate/index.aspx>

You will see some information you need to fill out. Fill it out. Then look at your food plan and answer the following.

Daily Food Plan

Want to know the amount of each food group you need daily? Enter your information below to find out and receive a customized Daily Food Plan.

NOTE: Daily Food Plans are designed for the general public, ages 2 and over; they are not therapeutic diets. Those with a specific health condition should consult with a health care provider for a dietary plan that is right for them. More tailored Daily Food Plans are available for preschoolers (2-5y) and women who are pregnant or breastfeeding.

Age:

Sex:

Weight: pounds

Height, feet: - feet

Height, inches: inches

Plans for children 2-8 are based on an average height and weight for their age and gender.

Physical Activity:

Amount of moderate or vigorous activity (such as brisk walking, jogging, biking, aerobics, or yard work) you do in addition to your normal daily routine, most days.

Physical Activity:

Food Group	Amount	One tip for this food group
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Grains

Vegetables

Fruits

Dairy

Protein
Foods

Empty Calories

Aim for how much oil per day

Limit on extra fats and sugar

Describe the changes you need to make in your diet to meet these guidelines. Include your current diet, meal planning for campouts and challenges you are totally responsible for your diet.



Obesity can be traced back to the era when man evolved from hunter-gatherers to agricultural settlers approximately 12,000 years ago. Diets adapted from animals and wild vegetables to eating a more stable variety of foods that were raised and grown. It became possible for people to produce more food than they needed to sustain life. As we learned, if you eat more than you need, your body will start storing fat. The Greeks were the first to recognize obesity as a medical disorder.

If we look at artwork, like paintings, statues and later photographs and movies, we can get idea of what different societies view as an ideal body shape. This has changed over time and it also differs between cultures. Obesity is still seen as a sign of wealth and well-being in many parts of Africa.

Once a society defines an ideal body shape or look, some people will do almost anything to achieve it. The dieting movement as we know it started in the 1800s. In 1829, Presbyterian minister Sylvester Graham touted the Graham diet – centered on caffeine-free drinks and vegetarian cuisine and graham crackers. Since then there have been some really bizarre diets, such as ingesting tapeworms and smoking cigarettes, all aimed at quick weight loss. People try these diets out of desperation or they do not want to make the life style changes required to control their weight or body size.



HELLO MY NAME IS Fad Diets
Are diets that capture our attention with amazing but generally false promises of weight loss. They tend to revolve around one specific hook or trick. Sometimes that's a food, sometimes it's a beverage, but it's nearly always just odd enough to intrigue the masses for flashes of popularity making them a fad diet.

GREEN TEA ORIGINATED AND WAS USED IN CHINA 5,000 YEARS AGO AS AN ANTI-AGE, MEDICINAL BEVERAGE
TWO LEGENDS DESCRIBE THE ORIGIN
Wow! Even in 2021 BC, green tea was used for spiritual, medicinal and health purposes throughout China. It was especially popular with the rich and famous who probably served and drank the tea.
Green tea all this time was separate. However on the fall of Mongolia empire in 1281 AD, the popularity of green tea peaked up as more were introducing a taste for it and started using more health benefits.
BETWEEN 129 AND 800 AD, GREEN TEA FOUND ITS WAY TO JAPAN.
Green tea made the sea West in 18th eventually arriving in the U.S. around 1800 as a gift that had been expected.
Today green tea is known to have health benefits that could reduce the risk of stomach or lung cancer and even heart disease. Before long people began reaching weight loss into their green tea leaves in addition to the known effects of reducing inflammation and boosting the immune system.
It has been found out that green tea contains high levels of EGCG (Epigallocatechin gallate). This helps in burning calories through metabolism.
In fact after just 5 years in the U.S. the first green tea fad diet was started. It has been blowing off and on ever since.

1950
The first origin of the cabbage soup diet in the 1950s. However, its discovery came to a head in the 1980s as celebrities spread the word.
In 1980, the cabbage soup diet took on a craze of when the "The Daily Mirror" and the "The Observer" did. "No more what you could if this was your diet."
Other names for the diet are "Military Cabbage Soup", "Starved Heart Diet", "The Miracle Soup Diet", "General Motors Diet" and "The Soup Plaster Diet".
The soup diet resurfaced in the 1990s.
It was published in famous magazines like Cosmopolitan and Cosmopolitan's Quarterly/now Q2 in 1995.
The Cabbage soup Diet has been considered to be a Fad diet because it was noticed that the weight loss it brings is not permanent, and is actually short-term.
People notice that when practicing a cabbage soup diet, they tend to feel weak and light headed.
Cranberry Juice Diet is known to decrease the risk of urinary tract infections, kidney infections, and cystitis.
2-3 weeks are needed for the diet to take effect.
Warning! Some people that over indulge in the cranberry juice diet have noticed skin boils and acne as the toxins are released from their systems.
Cranberry Juice Diet is known to be rich with vitamins like vitamin C, vitamin A, vitamin K and minerals like phosphorus, magnesium, calcium, potassium and beta-carotene.

Green Tea Diet
Cabbage soup diet
The cranberry Juice Diet

<http://www.buzzfeed.com/food/cranberry-juice-diet.html>
<http://www.cranberryjuice.com/about.html>
<http://www.dailymail.co.uk/health/cranberry-juice-diet.html>
<http://www.greenstew.com/greenstew/health/diet/weightloss.html>
<http://www.cabbage-soup-diet.com/>
<http://www.cabbage-soup-diet.com/faq.html>
<http://www.diet.com/diet/facts/cabbage-soup-diet>
http://www.thedieting.com/green_tea_benefits.html

Fad diets typically make unrealistic claims and their effect can range from bad to a truly dangerous thing to do. Here are three reasons to avoid them.

1. Diets Cause Excess Weight Gain When You Quit

For the vast majority of people, losing weight quickly does not last. The weight comes back plus some more and then you're worse off than if you had not tried the diet in the first place.

2. Fad Diets can Alter Metabolism

What changes our metabolism is not completely understood. The problem with strict fad diets is that they tell you when, what and how much to eat. This goes against your body's natural ability to tell us when to eat and when to stop eating. This can have detrimental effects on your metabolism that last longer than the actual diet does.

3. Nutrient Deficiencies

Many fad diets involve cutting out certain foods and sometimes cutting out an entire food group. Some severely limits carbohydrate, some limit fat and some diets have you only eating raw foods. The danger in being restrictive with the foods you eat is that it can result in nutritional deficiencies. This is why it's important to stay in touch with your

physician or dietitian when following strict diets.

The most common way people monitor their body size is by weighing themselves. Most of the fad diets will make large weight loss claims. While weighing yourself is an easy thing to do, the scale cannot look inside and tell you why you are gaining weight or what your ideal weight should be. To determine if you are adding body fat requires another test. The most accurate one is typically done at a clinic. There are less accurate ways such as a pinch test, electrical resistance or simply looking in the mirror. Weighing yourself regularly on a scale can give you an early warning about weight gaining. If you start putting on extra pounds and nothing in your life is changing, such as growing up or starting a weight lifting program, then you may be storing more fat.



The Boy Scout program and the Personal Fitness merit badge focuses on fat control and a healthy life style. You need to have a balance diet, a regular exercise program and positive attitude for your entire life. While nothing in life is guaranteed, you have a much better chance at having a longer, active life.

SO WHAT IS AN ACTIVE LIFE?



Think about your current physical ability. Could you complete a 10-mile hike? Run a mile or two? How about ten years from now? Twenty years or thirty years from now? As we age, muscles will shrink, bones get more brittle and we lose flexibility. But we can influence the rate that happens by diet and exercise.



One person who showed you can be active your entire life was Jack LaLanne. He described himself as being a "sugarholic" and a "junk food junkie" until he was 15. He also had behavioral problems, but "turned his life around" after listening to a public lecture by Paul Bragg, a well-known nutrition speaker. During his life, he came to believe that the country's overall health depended on the health of its population, writing that "physical culture and nutrition - is the salvation of America."

Decades before fitness began being promoted by celebrities, LaLanne was already widely recognized for publicly preaching the health benefits of regular exercise and a good diet. He published numerous books on fitness and hosted a fitness television show between 1951 and 1985. In 1984, at age 70, handcuffed, shackled, and fighting strong winds and currents, he towed 70 rowboats, one with several guests, from the Queen's Way Bridge in the Long Beach Harbor to the Queen Mary, 1 mile. We cannot all perform feats like that, but we can do the best we can with what we have. LaLanne died of pneumonia at his home at age 96 in 2011. According to his family, he had been performing his daily workout routine the day before his death.

To complete this requirement, determine the following weight limits for your height to participate in Boy Scout High Adventure Camps. This can be found in Part D of the annual Boy Scout Medical form and is based upon the Dietary Guidelines for Americans from the US Department of Agriculture and the Department of Health & Human Services. Are you in the recommended range? What can you do to get in the recommended range?

What is your height?
Recommended Weight Range?
Allowable Exception Range?
Maximum Acceptance Weight

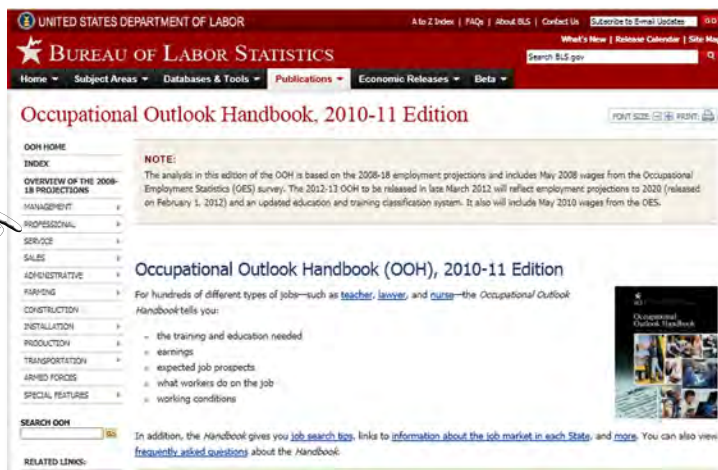
Find a Jack LaLanne video on the internet (try YouTube). Try one of his exercises and write down the name of the exercise.



The last requirement!! The Boy Scout merit badges have different fields of study. These themes include personal development, conservation, hobbies, professions and others. The Personal Fitness merit badge primarily focuses on personal development, but it includes one section on professions.

In this merit badge, we have covered the different aspects of Personal Fitness - physical fitness, emotional and mental health and nutrition. Have you found the information in this merit badge interesting? Does it sound like something you would like to spend your career doing?

Complete this requirement (and the merit badge!) by researching three career opportunities in personal fitness. One branch of the US Department of Labor is called the Bureau of Labor Statistics. The Bureau publishes the *Occupational Outlook Handbook* every year. The contents of this handbook can be found at:



<http://www.bls.gov/oco/>

For hundreds of different types of jobs—such as teacher, lawyer, and nurse—the Occupational Outlook Handbook tells you:

- Training and education needed
- Earnings
- Expected job prospects
- What workers do on the job
- Working conditions

Use the handbook the book to research three personal fitness occupations and fill out the table on the next page.

Hint - On the left side of the website, you will see **PROFESSIONAL** and **SERVICE**. Hover over or click these and you see categories you can pick from. Look for social scientists, science technicians and health categories.

Remember this website. It is a good place to research any career that interests you.

Complete the following based upon what you learned from the *Occupational Outlook Handbook*.

Name of Profession
Work Environment and Schedule
Education and training
Licensure and certification
Advancement (list one way)
Job Outlook
Earnings (median annual wage)

Name of Profession
Work Environment and Schedule
Education and training
Licensure and certification
Advancement (list one way)
Job Outlook
Earnings (median annual wage)

Name of Profession
Work Environment and Schedule
Education and training
Licensure and certification
Advancement (list one way)
Job Outlook
Earnings (median annual wage)

CONGRATULATIONS !! ALONG WITH YOUR EXERCISE PROGRAM, YOU HAVE COMPLETED THE PERSONAL FITNESS MERIT BADGE.

