

Physical Education/Health Grade 6th-8th

Day 1

Standards	PE: 8-2.3 Identify the five components of health-related physical fitness (muscle strength, muscle endurance, aerobic capacity, flexibility, and body composition) and, with limited teacher assistance, use them to design a personal health-related physical fitness plan based on FITT (frequency, intensity, type, and time) training principles.
Learning Targets/ I can Statements	I can recall the five components of health related fitness. I can recall and apply the FITT Principle.
Essential Questions	How much do I need to exercise to improve my physical fitness?
Resources	https://www.spps.org/Page/18206 (page 2) https://www.verywellfit.com/f-i-t-t-principle-what-you-need-for-great-workouts-1231593 (pages 3-6)
Learning Activities of Experiences	Read both articles (pages 2-6). Answer the follow questions on a sheet of paper or word document: <ol style="list-style-type: none">1. In your own words define each of the 5 health related components of fitness.2. In your own words define the FITT principle.3. Why are the 5 health related components of fitness important to your life?

Articles

<https://www.spps.org/Page/18206>

5 Components of Physical Fitness

The 5 components of physical fitness are often used in our school systems, health clubs and fitness centers to gauge how good a shape we are truly in. The 5 components that make up total fitness are:

- Cardiovascular Endurance
- Muscular Strength
- Muscular endurance
- Flexibility
- Body Composition

Total fitness can be defined by how well the body performs in each one of the components of physical fitness as a whole. It is not enough to be able to bench press your body weight. You also need to determine how well you can handle running a mile etc.

A closer look at the individual components:

Cardiovascular endurance is the ability of the heart and lungs to work together to provide the needed oxygen and fuel to the body during sustained workloads. Examples would be jogging, cycling and swimming. The Cooper Run is used most often to test cardiovascular endurance.

Muscular strength is the amount of force a muscle can produce. Examples would be the bench press, leg press or bicep curl. The push up test is most often used to test muscular strength.

Muscular endurance is the ability of the muscles to perform continuous without fatiguing. Examples would be cycling, step machines and elliptical machines. The sit up test is most often used to test muscular endurance.

Flexibility is the ability of each joint to move through the available range of motion for a specific joint. Examples would be stretching individual muscles or the ability to perform certain functional movements such as the lunge. The sit and reach test is most often used to test flexibility.

Body composition is the amount of fat mass compared to lean muscle mass, bone and organs. This can be measured using underwater weighing, Skinfold readings, and bioelectrical impedance. Underwater weighing is considered the “gold standard” for body fat measurement, however because of the size and expense of the equipment needed very few places are set up to do this kind of measurement.

Source: <https://www.verywellfit.com/f-i-t-t-principle-what-you-need-for-great-workouts-1231593>

The F.I.T.T. Principle for an Effective Workout

Change these elements to achieve new fitness goals

By
[Paige Waehner](#)

Paige Waehner is a certified personal trainer, author of the "Guide to Become a Personal Trainer"; and co-author of "The Buzz on Exercise & Fitness."

Reviewed by [Heather Black](#) on January 15, 2020

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Understanding the F.I.T.T. principle helps you create a workout plan that will be more effective in reaching your fitness goals. F.I.T.T. stands for frequency, intensity, time, and type of exercise. These are the four elements you need to think about to create workouts that fit your goals and fitness level. Learn how the F.I.T.T. principle works.

Frequency

The first thing to set up with your workout plan is frequency—how often you exercise. Your frequency often depends on a variety of factors including the type of workout you're doing, how hard you're working, your fitness level, and your exercise goals.

In general, the exercise guidelines set out by the American College of Sports Medicine give you a place to start when figuring out how often to work out:

- **For cardio:** Depending on your goal, guidelines recommend moderate exercise five or more days a week or intense cardio three days a week to improve your health. If you want to lose weight, you'll want to work up to more frequent workouts, often up to [six or more days a week](#).
- **For strength training:** The recommended frequency is two to three non-consecutive days a week (at least one to two days between sessions). Your frequency, however, will often depend on the workouts you're doing, because you want to work your muscles at least two times a week. If you do a split routine, like upper body one day and lower body the next, your workouts will be more frequent than total body workouts.

Intensity

Intensity has to do with how hard you work during exercise. How you can change the intensity depends on the type of workout you're doing.

- **For cardio:** For cardio, you will usually monitor intensity by [heart rate](#), [perceived exertion](#), the [talk test](#), a [heart rate monitor](#), or a combination of those measures. The general recommendation is to work at a [moderate intensity](#) for steady-state workouts. [Interval training](#) is done at a [high intensity](#) for a shorter period of time. It's a good idea to have a mixture of low, medium, and high-intensity cardio exercises so you stimulate different energy systems and avoid overtraining.
- **For strength training:** Monitoring the intensity of [strength training](#) involves a different set of parameters. [Your intensity](#) is made up of the exercises you do, the amount of weight you lift, and the number of reps and sets you do. The intensity can change based on your goals. If you are a beginner looking to build muscle stability and endurance, use a lighter weight and do fewer sets with high repetitions: two or three sets of 12 to 20 reps. If your goal is to grow muscle, do a higher number of sets with a moderate amount of repetitions (for instance, four sets of 10 to 12 reps each). If you want to build strength, use heavy weights to do a more sets with fewer reps (five sets of three reps each, for example).

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- **For strength training:** How long you lift weights depends on the type of workout you're doing and your schedule. For example, a [total body workout](#) could take up to an hour, whereas a [split routine](#) could take less time because you're working fewer muscle groups.

Type

The [type](#) of exercise you do is the last part of the F.I.T.T. principle and an easy one to manipulate to avoid overuse injuries or weight loss plateaus.

- **For cardio exercise:** Cardio is easy to change, since any activity that gets your heart rate up counts. Running, walking, cycling, dancing, and the elliptical trainer are some of the wide variety of activities you can choose. Having more than one go-to cardio activity is the best way to reduce boredom, and your body needs variability along with progressive overload.
- **For strength training:** Strength training workouts can also offer variety. They include any exercise where you're using some type of resistance (bands, dumbbells, machines, etc.) to work your muscles. [Bodyweight exercises](#) can also be considered a form of strength training. You can easily change the type of strength workouts you do, from total body training to adding things like [supersets](#) or [pyramid training](#) to liven things up.

How to Use the F.I.T.T Principle in Your Workouts

The F.I.T.T. principle outlines how to manipulate your program to get in shape and get better results. It also helps you figure out how to [change your workouts](#) to avoid boredom, overuse injuries, and [weight loss plateaus](#).

For example, walking three times a week for 30 minutes at a moderate pace might be a great place for a beginner to start. After a few weeks, however, your body [adapts](#) to these workouts and several things may happen:

- **Your body becomes more efficient at exercise:** The more you workout, the easier it is to do the exercises, causing you to burn fewer calories than you did when you started.
- **Weight loss:** Your new workouts may lead to weight loss. When you weigh less, you expend fewer calories moving your now-smaller body around.
- **Boredom:** Doing the same workout for weeks or months on end can get old, eating into your [motivation](#) to exercise.

It's at this point you want to manipulate one or more of the F.I.T.T. principles, such as:

- **Changing the frequency** by adding another day of walking
- **Changing the intensity** by walking faster or adding some running intervals
- **Changing the time** spent walking each workout day
- **Changing the type** of workout by swimming, cycling, or running.

Even just changing one of these elements can make a big difference in your workout and in how your body responds to exercise. It's important to change things up on a regular basis to keep your body healthy and your mind engaged.

Article Sources

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1. Garber CE, Blissmer B, Deschenes MR, et al. American College of Sports Medicine position stand. [Quantity and quality of exercise for developing and maintaining cardiorespiratory, musculoskeletal, and neuromotor fitness in apparently healthy adults: guidance for prescribing exercise](#). *Med Sci Sports Exerc.* 2011;43(7):1334-59. doi:10.1249/MSS.0b013e318213fefb

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Learning Activities of Experiences	On a sheet of paper or word document use the FITT Principle Chart to create a workout plan for the next 7 days. Complete the workout so that you will improve on 3 different components of fitness.

Attachment:

FITT Application	Cardiovascular Fitness	Muscular Endurance	Muscular Strength	Flexibility
FREQUENCY	3-5 time per week	2-4 times per week	2-4 times per week	Daily
INTENSITY	Train within the Target Heart Rate Zone (60%-80%)	Low Resistance	High Resistance	Hold beyond normal muscle length
TIME	Minimum of 20 minutes	High number of Repetitions	Low number of Repetitions	Hold each stretch a minimum of 20 seconds
TYPE	Aerobic activity keeping heart rate within the THR zone	Resistance Training, Yoga, Light Weights, Pilates	Anaerobic Activities: weight lifting, core training	Movements that allow full range of motion.

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Physical Education/Health 6th-8th

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Learning Targets/ I can Statements	I can recall and apply the health related fitness. I can recall and apply the FITT Principle. I can demonstrate different exercises.
Essential Questions	How much do I need to exercise to improve my physical fitness?
Resources	https://www.spps.org/Page/18206 (page 2) https://www.verywellfit.com/f-i-t-t-principle-what-you-need-for-great-workouts-1231593 (pages 3-6)
Learning Activities of Experiences	Complete 1 day of the workout you created. Write a one page reflection on how the workout went. Did you do enough exercise to improve your fitness? Why or why not? How will exercise enhance your life style?

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Physical Education/Health 6-8
Day 4

Standards	N-8.1.1 Examine the benefits of choosing healthy foods while following the current federal Dietary Guidelines for Americans. P-8.1.1 Explain the components of personal wellness.
Learning Targets/I Can Statements	Target: Complete a wellness plan to enhance a community.
Essential Question(s)	What actions would need to be in place to improve a community's health and wellness?
Resources	https://www.choosemyplate.gov/WhatIsMyPlate (page 2-5)
Learning Activities or Experiences	You are in charge of creating a wellness plan for a community. Create a 5 day meal plan. Meal Plan: <ul style="list-style-type: none">• Create a 5 day meal plan to enhance your community's health.• Must have a plan for breakfast, lunch and dinner for 5 days.• Lunch and dinner must have all food groups present.• Each meal needs at least one fruit/vegetable serving.

Resource: <https://www.choosemyplate.gov/WhatIsMyPlate>

Build a Healthy Eating Style

All food and beverage choices matter – focus on variety, amount, and nutrition.

- Focus on making healthy food and beverage choices from all five food groups including **fruits**, **vegetables**, **grains**, **protein foods**, and **dairy** to get the nutrients you need.
- **Eat the right amount of calories for you** based on your age, sex, height, weight, and physical activity level.
- Building a **healthier eating style** can help you avoid overweight and obesity and reduce your risk of diseases such as heart disease, diabetes, and cancer.

Choose an eating style low in saturated fat, sodium, and added sugars.

- Use **Nutrition Facts labels** and ingredient lists to find amounts of saturated fat, sodium, and added sugars in the foods and beverages you choose.
- Look for food and drink choices that are lower in saturated fat, sodium, and added sugar.
 - Eating fewer calories from foods high in saturated fat and added sugars can help you manage your calories and prevent overweight and obesity. Most of us eat too many foods that are high in saturated fat and added sugar.
 - Eating foods with less sodium can reduce your risk of high blood pressure.

Make small changes to create a healthier eating style.

- Think of each change as a personal “win” on your path to living healthier. Each **MyWin** is a change you make to build your healthy eating style. Find little victories that fit into your lifestyle and celebrate as a MyWin!
- Start with a few of these small changes.
 - Make half your plate fruits and vegetables.
 - Focus on whole fruits.
 - Vary your veggies.
 - Make half your grains whole grains.
 - Move to low-fat or fat-free milk or yogurt.
 - Vary your protein routine.

Support healthy eating for everyone.

- Create settings where healthy choices are available and affordable to you and others in your community.
- Professionals, policymakers, partners, industry, families, and individuals can help others in their journey to make healthy eating a part of their lives.

Start Simple with MyPlate

Start Simple with MyPlate and get tips, ideas and a personalized plan to meet your food group targets. Find what works for you and your family within your food preferences, health goals, and budget.



Fruits - Focus on whole fruits:

Eat seasonally! Checking what fruits are in season in your area can help save money.

Craving something sweet? Try dried fruits like cranberries, mango, apricots, cherries, or raisins.

To meet your fruit goal—keep fresh fruit rinsed and where you can see it. Reach for a piece when you need a snack.



Vegetables - Vary your veggies:

Vary your veggies by adding a new vegetable to a different meal each day.

Add color to salads with baby carrots, shredded red cabbage, or green beans. Include seasonal veggies for variety throughout the year.

Vegetables go well with a dip or dressing. Try a low-fat dip or hummus with raw broccoli, red and yellow peppers, sugar snap peas, celery, cherry tomatoes or cauliflower.



Grains - Make half your grains whole grains:

Popcorn is a whole grain! Pop a bag of low-fat or fat-free popcorn for a healthier snack.

Whole grain pasta is great in baked dishes or pasta salad. If you choose refined grain pasta, make sure it's enriched by checking the ingredient list.

Ready-to-eat, wholegrain cereal is a tasty breakfast option or can be enjoyed as a whole grain snack.



Protein Foods - Vary your protein routine:

Make dinner once and serve it twice. Roast a larger cut of lean meat. Make a second meal using the 'planned-over' meat.

For car trips, pack a mixture of unsalted nuts, seeds and dried fruit for a crunchy, protein-packed snack.

Keep seafood on hand. Seafood, such as canned salmon, tuna, or crab and frozen fish is quick and easy to prepare.



Dairy - Move to low-fat or fat-free milk or yogurt:

Make a smoothie by blending fat-free milk or yogurt with fresh or frozen fruit. Try bananas, peaches, or mixed berries.

For breakfast try low-fat or fat-free yogurt. Mix in cereal or fruit for extra flavor, texture and nutrients. Adding 8 oz. of low-fat or fat-free milk to your meal is one of the easiest ways to get dairy.

Physical Education/Health 6-8
Day 5

Standards	N-8.1.3 Explain the mental, social and physical benefits of moderate to vigorous physical activity. P-8.1.1 Explain the components of personal wellness.
Learning Targets/I Can Statements	Target: Complete a wellness plan to enhance a community.
Essential Question(s)	What actions would need to be in place to improve a community's health and wellness?
Resources	https://www.spps.org/Page/18206 (page 2) https://www.verywellfit.com/f-i-t-t-principle-what-you-need-for-great-workouts-1231593 (pages 3-6)
Learning Activities or Experiences	Create a physical activity wellness plan for a community. Physical Activity: <ul style="list-style-type: none"> • Create a plan to get your community members moving and active. • Must be at least 30 minutes/day. • Must be a different activity each day.

Attachment:

FITT Application	Cardiovascular Fitness	Muscular Endurance	Muscular Strength	Flexibility
FREQUENCY	3-5 time per week	2-4 times per week	2-4 times per week	Daily
INTENSITY	Train within the Target Heart Rate Zone (60%-80%)	Low Resistance	High Resistance	Hold beyond normal muscle length
TIME	Minimum of 20 minutes	High number of Repetitions	Low number of Repetitions	Hold each stretch a minimum of 20 seconds
TYPE	Aerobic activity keeping heart rate within the THR zone	Resistance Training, Yoga, Light Weights, Pilates	Anaerobic Activities: weight lifting, core training	Movements that allow full range of motion.

Articles

<https://www.spps.org/Page/18206>

5 Components of Physical Fitness

The 5 components of physical fitness are often used in our school systems, health clubs and fitness centers to gauge how good a shape we are truly in. The 5 components that make up total fitness are:

- Cardiovascular Endurance
- Muscular Strength
- Muscular endurance
- Flexibility
- Body Composition

Total fitness can be defined by how well the body performs in each one of the components of physical fitness as a whole. It is not enough to be able to bench press your body weight. You also need to determine how well you can handle running a mile etc.

A closer look at the individual components:

Cardiovascular endurance is the ability of the heart and lungs to work together to provide the needed oxygen and fuel to the body during sustained workloads. Examples would be jogging, cycling and swimming. The Cooper Run is used most often to test cardiovascular endurance.

Muscular strength is the amount of force a muscle can produce. Examples would be the bench press, leg press or bicep curl. The push up test is most often used to test muscular strength.

Muscular endurance is the ability of the muscles to perform continuous without fatiguing. Examples would be cycling, step machines and elliptical machines. The sit up test is most often used to test muscular endurance.

Flexibility is the ability of each joint to move through the available range of motion for a specific joint. Examples would be stretching individual muscles or the ability to perform certain functional movements such as the lunge. The sit and reach test is most often used to test flexibility.

Body composition is the amount of fat mass compared to lean muscle mass, bone and organs. This can be measured using underwater weighing, Skinfold readings, and bioelectrical impedance. Underwater weighing is considered the “gold standard” for body fat measurement, however because of the size and expense of the equipment needed very few places are set up to do this kind of measurement.

Source: <https://www.verywellfit.com/f-i-t-t-principle-what-you-need-for-great-workouts-1231593>

The F.I.T.T. Principle for an Effective Workout

Change these elements to achieve new fitness goals

By
[Paige Waehner](#)

Paige Waehner is a certified personal trainer, author of the "Guide to Become a Personal Trainer"; and co-author of "The Buzz on Exercise & Fitness."

Reviewed by [Heather Black](#) on January 15, 2020

Heather Black, CPT is a NASM-certified personal trainer and owner of Heather Black Fitness & Nutrition where she offers remote and in-person training and nutrition coaching.

Understanding the F.I.T.T. principle helps you create a workout plan that will be more effective in reaching your fitness goals. F.I.T.T. stands for frequency, intensity, time, and type of exercise. These are the four elements you need to think about to create workouts that fit your goals and fitness level. Learn how the F.I.T.T. principle works.

Frequency

The first thing to set up with your workout plan is frequency—how often you exercise. Your frequency often depends on a variety of factors including the type of workout you're doing, how hard you're working, your fitness level, and your exercise goals.

In general, the exercise guidelines set out by the American College of Sports Medicine give you a place to start when figuring out how often to work out:

- **For cardio:** Depending on your goal, guidelines recommend moderate exercise five or more days a week or intense cardio three days a week to improve your health. If you want to lose weight, you'll want to work up to more frequent workouts, often up to [six or more days a week](#).
- **For strength training:** The recommended frequency is two to three non-consecutive days a week (at least one to two days between sessions). Your frequency, however, will often depend on the workouts you're doing, because you want to work your muscles at least two times a week. If you do a split routine, like upper body one day and lower body the next, your workouts will be more frequent than total body workouts.

Intensity

Intensity has to do with how hard you work during exercise. How you can change the intensity depends on the type of workout you're doing.

- **For cardio:** For cardio, you will usually monitor intensity by [heart rate](#), [perceived exertion](#), the [talk test](#), a [heart rate monitor](#), or a combination of those measures. The general recommendation is to work at a [moderate intensity](#) for steady-state workouts. [Interval training](#) is done at a [high intensity](#) for a shorter period of time. It's a good idea to have a mixture of low, medium, and high-intensity cardio exercises so you stimulate different energy systems and avoid overtraining.
- **For strength training:** Monitoring the intensity of [strength training](#) involves a different set of parameters. [Your intensity](#) is made up of the exercises you do, the amount of weight you lift, and the number of reps and sets you do. The intensity can change based on your goals. If you are a beginner looking to build muscle stability and endurance, use a lighter weight and do fewer sets with high repetitions: two or three sets of 12 to 20 reps. If your goal is to grow muscle, do a higher number of sets with a moderate amount of repetitions (for instance, four sets of 10 to 12 reps each). If you want to build strength, use heavy weights to do a more sets with fewer reps (five sets of three reps each, for example).

Time

The next element of your workout plan is how long you exercise during each session. There isn't one set rule for how long you should exercise and it will typically depend on your fitness level and the type of workout you're doing.

- **For cardio:** The exercise guidelines suggest 30 to 60 minutes of cardio but the duration of your workout depends on what you're doing. If you're a beginner, you might start with a [workout of 15 to 20 minutes](#). If you're doing steady-state cardio, such as going for a run or getting on a cardio machine, you might exercise for 30 to 60 minutes. If you're doing interval training and working at a very high intensity, your workout will be shorter, around 20 to 30 minutes. Having a variety of workouts of different intensities and durations will give you a solid, balanced cardio program.
- **For strength training:** How long you lift weights depends on the type of workout you're doing and your schedule. For example, a [total body workout](#) could take up to an hour, whereas a [split routine](#) could take less time because you're working fewer muscle groups.

Type

The [type](#) of exercise you do is the last part of the F.I.T.T. principle and an easy one to manipulate to avoid overuse injuries or weight loss plateaus.

- **For cardio exercise:** Cardio is easy to change, since any activity that gets your heart rate up counts. Running, walking, cycling, dancing, and the elliptical trainer are some of the wide variety of activities you can choose. Having more than one go-to cardio activity is the best way to reduce boredom, and your body needs variability along with progressive overload.
- **For strength training:** Strength training workouts can also offer variety. They include any exercise where you're using some type of resistance (bands, dumbbells, machines, etc.) to work your muscles. [Bodyweight exercises](#) can also be considered a form of strength training. You can easily change the type of strength workouts you do, from total body training to adding things like [supersets](#) or [pyramid training](#) to liven things up.

How to Use the F.I.T.T Principle in Your Workouts

The F.I.T.T. principle outlines how to manipulate your program to get in shape and get better results. It also helps you figure out how to [change your workouts](#) to avoid boredom, overuse injuries, and [weight loss plateaus](#).

For example, walking three times a week for 30 minutes at a moderate pace might be a great place for a beginner to start. After a few weeks, however, your body [adapts](#) to these workouts and several things may happen:

- **Your body becomes more efficient at exercise:** The more you workout, the easier it is to do the exercises, causing you to burn fewer calories than you did when you started.
- **Weight loss:** Your new workouts may lead to weight loss. When you weigh less, you expend fewer calories moving your now-smaller body around.
- **Boredom:** Doing the same workout for weeks or months on end can get old, eating into your [motivation](#) to exercise.

It's at this point you want to manipulate one or more of the F.I.T.T. principles, such as:

- **Changing the frequency** by adding another day of walking
- **Changing the intensity** by walking faster or adding some running intervals
- **Changing the time** spent walking each workout day
- **Changing the type** of workout by swimming, cycling, or running.

Even just changing one of these elements can make a big difference in your workout and in how your body responds to exercise. It's important to change things up on a regular basis to keep your body healthy and your mind engaged.

Article Sources

Verywell Fit uses only high-quality sources, including peer-reviewed studies, to support the facts within our articles. Read our [editorial process](#) to learn more about how we fact-check and keep our content accurate, reliable, and trustworthy.

1. Garber CE, Blissmer B, Deschenes MR, et al. American College of Sports Medicine position stand. [Quantity and quality of exercise for developing and maintaining cardiorespiratory, musculoskeletal, and neuromotor fitness in apparently healthy adults: guidance for prescribing exercise](#). *Med Sci Sports Exerc.* 2011;43(7):1334-59. doi:10.1249/MSS.0b013e318213fefb

Physical Education/Health Grade 6th-8th

Day 6

Standards	D-8.1.1 Discuss the reasons that individuals use and abuse alcohol, tobacco, and other drugs (ATOD).
Learning Targets/I Can Statements	I can explain why nicotine is addictive, explain how someone can form a tolerance for nicotine, describe the different kinds of dependence, and explain how individual differences affect addiction
Essential Questions	How can an individual become tolerant or dependent to nicotine?
Resources	file:///C:/Users/jacob.scruggs/Downloads/noreply@richlandone.org_20200316_090956.pdf
Learning Activities of Experiences	Read Lesson 4 After reading, answer the following questions: 1. What is the difference between physical and psychological dependence? 2. Use the word nicotine in a sentence about addiction 3. What are the steps to forming an addiction to tobacco products? 4. Why is it easier for some people to become addicted?

Lesson 4

Tobacco and Addiction

What You'll Do

- Explain why nicotine is addictive.
- Explain how someone can form a tolerance to nicotine.
- Describe the different kinds of dependence.
- Explain how individual differences affect addiction.

Terms to Learn

- tolerance
- physical dependence
- drug addiction
- psychological dependence
- withdrawal

Start Off Write

How does nicotine affect people?

Rob took a smoking break after every hour of doing homework. Gradually, he realized that he couldn't concentrate without taking smoking breaks. Why was it so hard to concentrate?

Rob had trouble concentrating because he was becoming addicted to cigarettes. Regular use of tobacco products leads to nicotine addiction.

Nicotine

All forms of tobacco contain the drug nicotine. Tiny molecules of nicotine enter the blood through tissues in the mouth and the lungs. These molecules reach the brain within seconds of using tobacco. Once in the brain, nicotine molecules attach to *receptors* on nerve cells. A receptor is a place on a cell where a specific molecule can attach. A molecule attaches to a receptor much like a key fits into a lock. When nicotine attaches to a receptor, the brain sends chemical messages through the body. These messages cause nicotine's effects, such as increased heart rate and increased blood pressure.

Nicotine is a very powerful drug. Only a small amount of nicotine is needed to produce an effect. Most people feel dizzy and nauseous and may even vomit when they first use tobacco. This happens because their bodies are not yet used to nicotine's effects. After the body becomes used to nicotine, the drug's effects are less obvious, but more dangerous.

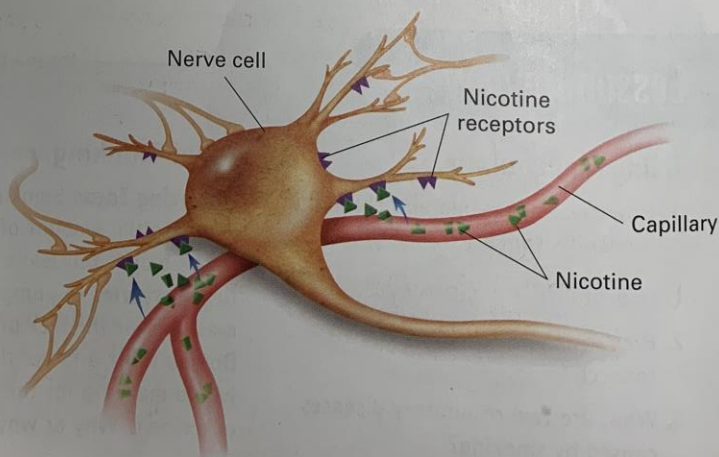


Figure 12 Nicotine in the blood attaches to nicotine receptors on nerve cells in the brain.



Figure 13 As tolerance increases, a smoker needs nicotine just to feel normal.

Tolerance and Dependence

The more a person uses a drug, the less effect the drug has. Experienced tobacco users rarely feel dizzy from tobacco because their bodies are used to nicotine. The process of the body getting used to a drug is called **tolerance**. People with tolerance to nicotine need more tobacco in order to feel its effects. This is why most smokers slowly increase how often they smoke.

Tolerance occurs as the body adapts to the effects of drugs. The brain physically changes by forming more receptors for nicotine. These extra receptors prevent the original amount of nicotine from causing effects such as increased heart rate. Only with more nicotine attaching to the new receptors can these effects occur. When people increase the amount of tobacco they use, nicotine's effects return.

Once nicotine has caused a person's brain to change, that person is dependent. **Physical dependence** is a state in which the body needs a drug to function normally. People who are physically dependent experience fewer effects from tobacco. In fact, these people have to use tobacco just to feel normal. Physical dependence develops quickly in most tobacco users. It is a sign that they are addicted to nicotine. **Drug addiction** is the inability to control one's use of a drug.

Myth & Fact

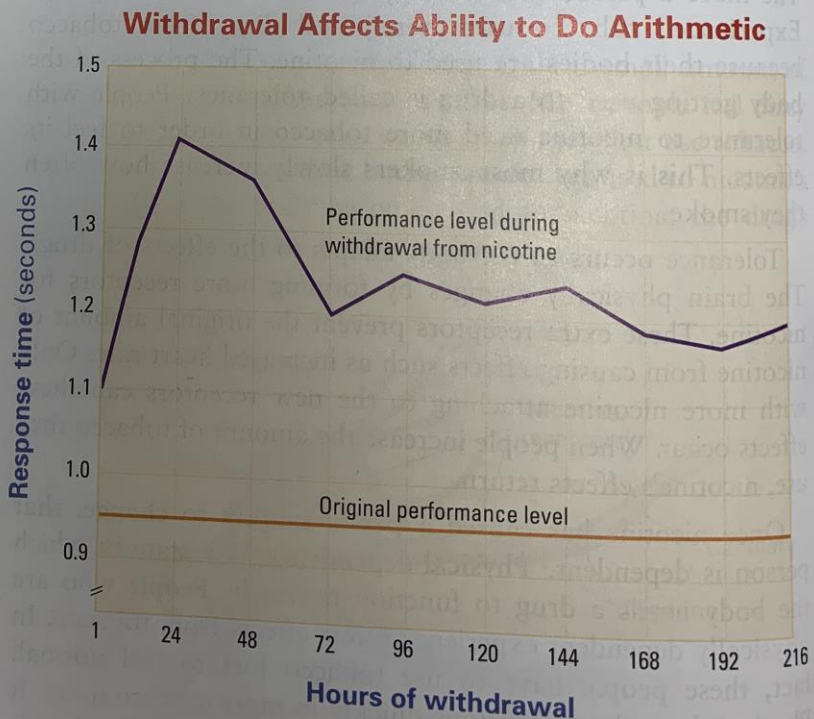
Myth: Uncomfortable symptoms occur only when a person quits using tobacco.

Fact: Uncomfortable symptoms begin to occur if a person goes longer than usual without using a tobacco product. One reason that a person continues using tobacco is to avoid the discomfort.

MATH ACTIVITY

Suppose that the time it takes a man to answer a math problem is increased by 0.45 seconds when he quits smoking. In 1 week, withdrawal has decreased and it takes him 1.1 seconds to answer a math problem. If he got 0.2 seconds faster during this week, how long did it take him to answer a math problem before he quit smoking?

Figure 14 This graph shows withdrawal's effect on response time for solving math problems. Eventually, the reaction time returns to normal.



Source: Handbook of Neurotoxicology.

Psychological Dependence

Drug addiction affects the mind as well as the body. Some people use tobacco so often that they think that they need it to feel energetic or relaxed. They may get so much pleasure from tobacco that they even enjoy holding and lighting cigarettes. These people have a mental need for tobacco. **Psychological dependence** is a state in which you think that you need a drug in order to function. Psychological and physical dependence are both parts of drug addiction.

Withdrawal

When tobacco users are dependent on nicotine, they feel uncomfortable without tobacco. At first, they may get edgy and feel a desire for tobacco. If they don't use tobacco, they will have withdrawal. **Withdrawal** is the way in which the body responds when a dependent person stops using a drug. Withdrawal from nicotine can cause people to feel anxious, irritable, and tired. It can also cause headaches and poor concentration. Once people build up a tolerance, they may use tobacco to avoid withdrawal.



Figure 15 Individual differences make quitting different for every person.

Different Responses to Tobacco

No two people are exactly alike, and no two people are affected by tobacco in exactly the same way. Some people become addicted to nicotine after a short period of smoking. Others try one cigarette and never smoke again. And while some people can quit using tobacco on the first try, others can't quit even after getting emphysema.

Social factors and family history may influence the way in which different people respond to tobacco. Some people grow up in places where smoking is acceptable. Others are born with a brain chemistry that makes nicotine more enjoyable. Scientists are trying to understand the reasons behind such differences. Understanding these reasons may make treating addiction easier.

Lesson Review

Using Vocabulary

1. What is the difference between physical and psychological dependence?
2. Use the word *nicotine* in a sentence about addiction.

Understanding Concepts

3. What are the steps to forming an addiction to tobacco products?

4. Why is it easier for some people to become addicted?

Critical Thinking

5. **Making Predictions** The first time a person tries a cigarette, that person will probably feel sick. What do you think would happen to a person who regularly smokes but then tries chewing tobacco? Would the person feel sick? Why or why not?

internet connect

www.scilinks.org/health
Topic: **Nicotine**
HealthLinks code: **HD4069**

Topic: **Drug Addiction**
HealthLinks code: **HD4028**

HEALTH LINKS. Maintained by the National Science Teachers Association

Physical Education/Health Grade 6th-8th

Day 7

Standards	D-8.1.1 Discuss the reasons that individuals use and abuse alcohol, tobacco, and other drugs (ATOD).
Learning Targets/I Can Statements	I can explain why quitting a tobacco habit is so difficult, describe strategies for quitting a tobacco habit, and explain how tobacco-free nicotine products help people quit smoking
Essential Questions	Why is quitting tobacco so difficult for some people?
Resources	file:///C:/Users/jacob.scruggs/Downloads/noreply@richlandone.org_20200316_090956.pdf
Learning Activities of Experiences	Read lesson 5 After reading, answer the following questions: 1. What is a nicotine replacement therapy? 2. Define cessation in your own words 3. Why is quitting tobacco difficult once you are addicted? 4. Describe different methods of quitting smoking 5. If a smoker quits using cigarettes, what positive changes may he or she notice immediately? In a week?

Lesson 5

Quitting

What You'll Do

- Explain why quitting a tobacco habit is so difficult.
- Describe strategies for quitting a tobacco habit.
- Explain how tobacco-free nicotine products help people quit smoking.

Terms to Learn

- relapse
- cessation
- nicotine replacement therapy (NRT)

Spot On Write

Why is it hard to quit using tobacco?

Nick's father had tried to quit smoking many times, but he always started again as soon as a problem came up at work or at home. Why was quitting so hard?

Nick's father may start smoking when problems come up because he thinks smoking helps him relax. Quitting a tobacco addiction is very difficult. But there are several ways to quit, and people can keep trying until they are successful.

Quitting Isn't Easy

Each year, nearly 20 million people in the United States try to quit smoking. But only 3 percent have long-term success. Unfortunately, most people who try to quit relapse within a few months. To **relapse** is to begin using a drug again after stopping for awhile. People often relapse when trying to quit an addiction to tobacco.

Why is quitting so tough? Quitting is difficult because physical and psychological dependence and the discomfort of withdrawal make nicotine very addictive. Nicotine changes the brain to make a person want more nicotine. It is hard to quit using an addictive drug—even when people know that the drug makes them sick. Some researchers think that nicotine is one of the hardest drugs to stop using.

It is easier for a person who has used tobacco for a short time to quit than for a person who has used tobacco a long time. Over time, the body changes more and more, making it even more difficult to quit a tobacco habit.



Source: Johns Hopkins and Health and Center for Disease Control and Prevention.

Figure 16 Quitting is hard even for smokers who realize that smoking is dangerous.



Figure 17 Spending time with people who don't use tobacco can make quitting a tobacco addiction easier.

Planning

Making a serious attempt to quit using tobacco takes thought, commitment, and planning. There are many different ways to quit. A method that works for some people may not work for others. Just as there are individual differences in a person's response to tobacco, there are differences in a person's ability to quit.

Choosing the right method can make quitting easier. Some people can quit by deciding to suddenly and completely stop. This method is called quitting "cold turkey." However, most people need help from doctors, health professionals, or cessation (see SAY shuh) counselors. **Cessation** is the act of stopping something entirely and permanently. Some tobacco users may prefer to join a support group of other people who are also trying to quit. Such groups may meet regularly with a counselor. However, an informal group of friends can also be effective.

Most people need to make changes in order to avoid situations that tempt them to use tobacco. If people are used to smoking when drinking coffee, they could drink tea or juice instead. If people are used to chewing tobacco with friends, they could ask friends not to chew tobacco near them. People who want to quit need to plan ways to avoid temptations.

LIFE SKILLS ACTIVITY

MAKING GOOD DECISIONS

Write a short story about a person who smokes cigarettes for many years. Describe how this person realizes the need to quit smoking. Then describe how difficult it is to quit. The person may try several different methods before finding a plan that works. Perhaps this person finds that

quitting was easier who went to end their tobacco habit is a helpful way to quit. Or the person may find that smoking places where people smoke is the most helpful way to quit. End your story with a brief description of the benefits that quitting brings to this person's life.

Using Medicines

Several kinds of medicine can help people quit using tobacco. Some of these medicines can be bought at a store, but others can be taken only with a doctor's prescription. Research has shown that people who use both medicine and counseling have the most success quitting.

One of the hardest parts of quitting a tobacco habit is withdrawal from nicotine. Some medicines can reduce the discomfort of withdrawal. **Nicotine replacement therapy (NRT)** is a form of medicine that contains safe amounts of nicotine. NRT replaces

some of the nicotine that people used to get from tobacco products. These small amounts of nicotine reduce withdrawal discomfort so that quitting is easier. Nicotine gum and patches are the most common forms of NRT. Over several weeks, people reduce their use until they no longer need NRT. This method helps the body slowly get used to functioning without tobacco products.

All medicines used to help with cessation of tobacco use are tested for safety before they can be sold. However, they are drugs, and they can be dangerous if they are not used correctly. Also, most tests on these medicines have studied adults who want to quit using tobacco. It is important for you, especially children and teens—to talk to a doctor before using these medicines.



Figure 18 NRTs are drugs developed to help people quit using tobacco.

Why Quit?

It is never too early or too late to quit using tobacco. Quitting at any age reduces the risk of getting diseases caused by tobacco. Quitting once a disease has developed keeps the problem from getting worse. However, the benefits of quitting are greater the earlier that a person stops.

Positive changes in health begin immediately after a person quits using tobacco. Just one day after quitting, the level of carbon monoxide in a smoker's body can return to normal. The body's ability to recover from illness and resist infection increases immediately. After quitting, people catch fewer colds. People also recover faster when they become sick. Even mouth sores from chewing tobacco can heal if the user quits before they become cancerous.

Quitting also helps people who live with tobacco users. Getting rid of ETs reduces the risk of disease for nonsmokers. People who love and care about the tobacco user can stop worrying about that person's health. People report feeling better about life in general once they have quit using tobacco. After a while, people who quit notice the independence of being free from the addiction they need for a drug. Quitting a tobacco habit is one of the most beneficial things a person can do for his or her health and life.

Lesson Review

Using Vocabulary

1. What is nicotine replacement therapy?
2. Define cessation in your own words.

Understanding Concepts

3. Why is quitting tobacco difficult over you are addicted?

4. Describe different methods of quitting smoking.

Critical Thinking

5. Applying Concepts If NRTs contain the drug nicotine, how can they help people quit an addiction to nicotine?
6. Making Inferences If a smoker quits using cigarettes, what positive changes may he or she notice immediately? In a week?



Figure 19 As soon as a person quits using tobacco, his or her body begins to recover.

Physical Education/Health Grade 6th-8th

Day 8

Standards	D-8.1.1 Discuss the reasons that individuals use and abuse alcohol, tobacco, and other drugs (ATOD). D-8.2.2 Evaluate the influence of family, peers, culture, and the media on an individual's ATOD use
Learning Targets/I Can Statements	I can describe how peers can influence tobacco use, explain how family and role models can influence people to use tobacco, and discuss how advertising can influence tobacco
Essential Questions	How does media influence tobacco use?
Resources	file:///C:/Users/jacob.scruggs/Downloads/noreply@richlandone.org_20200316_090956.pdf
Learning Activities of Experiences	Read lesson 6 After reading, answer the following questions: 1. Define peer pressure 2. How can peers pressure teens to try tobacco? 3. How can family members influence teens' ideas about tobacco 4. How can advertising influence teens' ideas about tobacco?

Lesson 6

Why People Use Tobacco

What You'll Do

- Describe how peers can influence tobacco use.
- Explain how family and role models can influence people to use tobacco.
- Discuss how advertising can influence tobacco use.

Terms to Learn

- peer pressure
- modeling

Start On It Write

How can peer pressure help a person avoid tobacco?

Iris was pleased that her friend Zoey spoke up so strongly about not wanting to smoke a bidl. After Zoey refused the tobacco, Iris had a much easier time refusing it, too.

Even though Iris did not want to smoke, she felt pressured to try it until Zoey spoke up. Pressure to try tobacco can come from many places. Being aware of these pressures can help you avoid their influence.

Why Would Anyone Ever Start?

Why would anyone begin a habit that causes nausea and dizziness at first and can lead to serious diseases or even death? Some people enjoy the relaxed or energetic feelings caused by nicotine. But many different pressures can influence people to try tobacco. Teens often feel the most pressure from peers. Your *peers* are friends and other people who are the same age as you. **Peer pressure** is a strong influence from a friend or a classmate.

Peer pressure often influences a person's ideas about tobacco. Just seeing other teens smoking can make cigarettes seem tempting. Using tobacco may seem like an easy way to make friends or to act like an adult. Sadly, teens who try tobacco do not always understand that they are at risk for addiction and disease.

Do Smokers Have More Friends Than Nonsmokers Do?

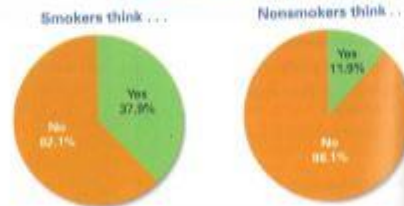


Figure 20 Though some people who smoke think that smokers have more friends than nonsmokers do, most nonsmokers disagree.

Source: Centers for Disease Control and Prevention



Figure 21 Children of two times more likely than children of nonsmokers.

Family and Role Models

Peers are not the only source of pressure to try tobacco. Watching someone who you admire use tobacco can strongly influence your beliefs about tobacco. Actors who use tobacco in movies or on TV can make tobacco seem appealing. Some tobacco companies pay for actors to use their products in movies. These companies know that some people may buy that brand of tobacco if they think a favorite actor uses it.

Family members may also influence teens to try tobacco, even if they don't intend to. Seeing parents or siblings smoke may cause a young person to think that smoking is safe. Children often base their behavior on what they see around them. Basing your behavior on how others act is called **modeling**. Research has shown that children of parents who smoke are more likely to become smokers than children of nonsmokers are.

However, pressure from family members can work in the opposite direction, too. Parents who do not use tobacco are a positive influence. Also, watching a loved one become ill or die from a tobacco-related disease is very difficult and painful. This experience can pressure a person to never try tobacco.

ACTIV

Have you ever seen a movie or a TV show in which a character smokes or uses chewing tobacco? Write a paragraph in which you describe whether that character made the tobacco seem safe or appealing. Or invent a character, and write a brief story about that person using tobacco in a way that makes it seem dangerous and unappealing.

Figure 22 Advertising can be used to promote tobacco products, but it can also send antismoking messages.



Advertising and Tobacco Promotion

Even people who have never tried a cigarette can usually name the most popular brands of tobacco. Tobacco companies spend large amounts of money each year to advertise and promote their products. *Promotion* is making a product seem wonderful by hosting games or concerts, giving out free products, or setting up displays in stores. Tobacco companies spend more than \$34.2 million a day to promote their products. In other words, these companies spend nearly \$1.5 million an hour in advertising!

People in tobacco ads often look young, attractive, healthy, and fit. Ads often show beautiful scenes, such as beaches and mountains, where people enjoy nature. These images are not at all related to the health problems caused by tobacco products.

Some brands of tobacco are designed to attract different groups of people. Some products are aimed at men, women, or young people. Teens are more likely to use specific brands of tobacco. If teens recognize a particular brand, they will be more likely to try that brand if they decide to smoke.

Because of lawsuits against tobacco companies, there are now more restrictions against designing tobacco products for teens. Several efforts have been made to advertise the dangers of tobacco use. Since 1966, all tobacco packaging has been required to show a warning from the Surgeon General. This label warns people about specific dangers of tobacco. Recently, anti-tobacco groups have advertised the dangers of tobacco products on billboards and TV. These advertisements encourage teens to avoid tobacco.

LIFE SKILLS ACTIVITY

ASSESSING YOUR HEALTH

Do you feel tempted to try tobacco, or have you already tried it? If so, write yourself a letter weighing the pros and cons of using tobacco. If you are not tempted, write yourself a letter outlining all of the reasons you do not want to use tobacco.

Internal Pressures

Sometimes the strongest pressures to use tobacco come from our own thoughts. Some people like to take risks. Others are rebellious or curious. Certain people may have trouble facing peer pressure. Even boredom can tempt some people to try tobacco. Whatever the reason, trying tobacco is not worth the risks. Smoking is dangerous. Satisfying curiosity, rebellious feelings, or boredom in another way can save a person's life.

People who have emotional problems can be easily tempted to try tobacco. Tobacco may give them a false sense of control. However, addictive drugs do not help solve emotional problems. Drugs can even make some problems worse by causing health or social problems. Getting help from counselors, friends, and others is a much better way to cope with problems.

Most People Don't Use Tobacco!

Remembering that most people do not use tobacco can help you resist pressure to try tobacco. Although many people die from smoking-related diseases in the United States every day, most Americans do not smoke. Tobacco users and advertisements can make smoking seem popular. But about 75 percent of the people in the United States do not use tobacco. The number of young people who use tobacco has been declining since the late 1990s. More and more people are deciding not to use tobacco.



Figure 23 Satisfying curiosity about smoking is not worth the health of using tobacco.

Lesson Review

Using Vocabulary

1. Define *peer pressure*.

Understanding Concepts

2. How can peers pressure teens to try tobacco?
3. How can family members influence teens' ideas about tobacco?
4. How can advertising influence teens' ideas about tobacco?

Critical Thinking

5. **Applying Concepts** Why do some tobacco companies promote products by hosting sporting events or concerts? How could these events pressure people to use tobacco?
6. **Analyzing Ideas** Why do you think that the number of young people who use tobacco has been declining since the late 1990s?

Physical Education/Health Grade 6th-8th

Day 9

Standards	D-8.1.2 Examine the short and long-term effects and consequences of ATOD use, including the impact on society.
Learning Targets/I Can Statements	I can Describe how the body processes alcohol I can Explain blood alcohol concentration I can Identify three factors that affect an individual's reaction to alcohol
Essential Questions	What are the health risks of using alcohol?
Resources	file:///C:/Users/jacob.scruggs/Documents/Health%20Lessons.pdf
Learning Activities of Experiences	Answer the following questions after reading lesson 1: 1. Define blood-alcohol concentration (BAC) 2. What is a depressant? 3. How does your body process alcohol? 4. How does an increasing BAC affect your body? 5. What are the 3 factors that influence a person's reaction to alcohol?

Lesson 1

Alcohol and Your Body

What You'll Do

- Describe how the body processes alcohol.
- Explain blood alcohol concentration.
- Identify three factors that affect an individual's reaction to alcohol.

Terms to Learn

- central nervous system (CNS)
- depressant
- blood alcohol concentration (BAC)

Start Off Write

What happens to your body when you drink alcohol?

Marta and her friends are writing a play about how alcohol affects a person's life. Marta knows that drinking alcohol can make you sick but isn't sure how it does.

Marta learns that there are different kinds of alcohol, that all kinds are dangerous, and that all are drugs. Like any drug, alcohol changes a person's physical or psychological state.

Types of Alcoholic Beverages

Alcohol is one of the oldest substances made and drunk by humans. It is a colorless, bitter-tasting liquid. Most alcohol comes from plants that have been *fermented*, or processed to produce alcohol. For example, wine comes from fermented grapes and other fruits. Beer is made from fermented grains, including barley and wheat. Some spirits and liquors, such as whiskey, vodka, brandy, and gin, are made from fermented plants and then processed further to increase their alcohol content.

Beverage alcohol, also called ethanol (ETH uh NAWL), is only one type of alcohol. Other alcohols, such as wood alcohol, or methanol (METH uh NAWL), were created for other purposes. These alcohols are poisonous and can permanently damage the body. Never drink methanol or other nonbeverage alcohols. A few teaspoons of methanol can cause blindness. A few tablespoons can cause death.

Figure 1 Alcoholic beverages come in all shapes, sizes, and flavors. And all of them can be deadly.



Alcohol in Your Body

When you swallow alcohol, it goes into your stomach and small intestine. Alcohol is then absorbed into the bloodstream and is carried to every part of your body.

Alcohol has very little nutritional value. In fact, alcohol acts as a poison or a drug in your body. In excessive amounts, alcohol is a poison. Alcohol's main effect is as a drug on the central nervous system. The **central nervous system (CNS)** consists of the brain and spinal cord. The CNS controls speech, thinking, memory, judgment, and learning. It also controls emotions, breathing, senses, and movement. Alcohol is a CNS depressant. A **depressant** is a drug that slows body functioning. Alcohol depresses the ways in which your CNS controls your body. Alcohol also affects your kidneys, liver, and digestion.

At low levels, such as one drink, alcohol affects your mood. Some drinkers feel more active and less shy. The alcohol makes them feel more relaxed and friendly. This initial feeling from one or two drinks is one of alcohol's effects on the brain. The pleasant feeling is one reason some adults drink. But some drinkers want to drink more. They think that if one drink makes them feel good, several drinks will make them feel even better. The result can be deadly.

Alcohol and Your Brain

Alcohol affects the parts of your brain that control behavior. As the amount of alcohol in your blood increases, your thinking, memory, and judgment are impaired. Your ability to tell the difference between what is safe and what is dangerous is reduced. With a little more alcohol, you lose control of speech, movement, and coordination. Walking and even standing become difficult. As alcohol levels increase, your CNS becomes more depressed. Sleep, coma, and even death—by alcohol poisoning—can occur.

Figure 2 Alcohol's Path Through Your Body

Brain

Within 10–15 heartbeats, alcohol in the bloodstream reaches the brain.

Mouth

Alcohol enters the body.

Liver

Alcohol is converted into water, carbon dioxide, and energy.

Small intestine

Most alcohol enters the bloodstream through the small intestine.

Esophagus

Alcohol travels down the esophagus from the mouth to the stomach.

Heart

The heart pumps alcohol in the bloodstream throughout the body.

Stomach

Some of the alcohol enters the bloodstream in the stomach, but most alcohol passes into the small intestine.

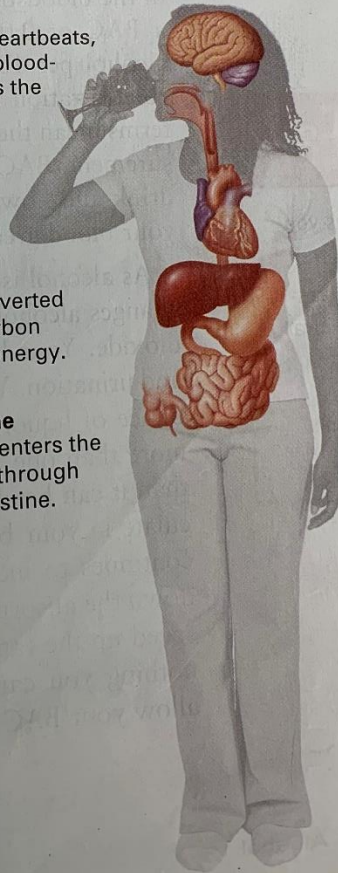
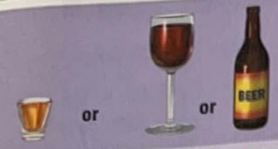
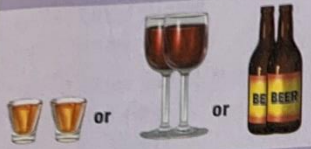
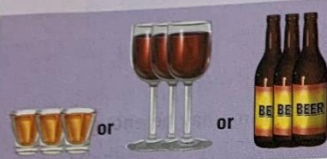


TABLE 1 What Are the Effects of Alcohol?

Blood-alcohol concentration (BAC)	Physical effects	Mental effects
 = 0.02–0.04 1 drink/ 1 hour	mild relaxation; reaction time slowed	acting silly; telling people things you wouldn't usually tell them
 = 0.03–0.06 2 drinks/ 1 hour	slight to minor impairment of memory; slight impairment of balance, speech, vision, reaction time, and hearing	reduction in judgment and self-control; belief that you are functioning better than you really are
 = 0.05–0.14 3 drinks/ 1 hour	minor to significant impairment of coordination, balance, speech, vision, reaction time, and hearing; loss of physical control	moderate to severe impairment of judgment and perception; feeling very happy and lightheaded

Alcohol in the Blood

Blood alcohol concentration (BAC) is the amount of alcohol in the bloodstream. It is measured in percentages. For example, a BAC of 0.08 percent means that a person has 8 parts of alcohol per 10,000 parts of blood in the body. Blood alcohol concentration is often called *blood alcohol level* (BAL). These terms mean the same thing, and both use the same scale of measurement. BAC, or BAL, is the result of how much alcohol you drink and how quickly you drink it. The amount of alcohol in your blood greatly affects how your mind and body react.

As alcohol is absorbed into the liver from the blood, the liver changes alcohol into waste products, such as water and carbon dioxide. Your body gets rid of these wastes through breathing and urination. Your liver can process only about two-thirds of an ounce of liquor or 8 ounces of beer per hour. So, if you drink more than one drink an hour, your body absorbs alcohol faster than it can be changed. The rest of the alcohol continues to circulate in your blood. And as you continue to drink, your BAC continues to increase. Having food in your stomach can slow down the absorption of alcohol into the blood, but food will not speed up the rate at which you process alcohol. In fact, there is nothing you can do to speed up this process. Only time will allow your BAC to go down.

Myth & Fact

Myth: Alcohol gives you extra energy.

Fact: Alcohol is a depressant. It affects your central nervous system, slows you down, and impairs the functioning of your mind and your body.

Individual Reactions to Alcohol

Each person's body reacts to alcohol a little differently. You may see a wide variety of reactions among people. And one person's reactions may be different each time the person drinks alcohol. Why? Alcohol's effects on the body are influenced by several factors. For example, women absorb and metabolize alcohol differently than men do. Women tend to have more body fat and to reach a higher BAC faster than men who drink the same amount do. And a heavier or larger person must drink more alcohol than a smaller person does to reach the same BAC.

An individual's health, amount of sleep, and medications may also affect his or her reaction. And how people expect alcohol to make them feel and their mood may also affect their reaction to alcohol. For example, if a person expects to lose control, he or she more likely will. A person's positive or negative mood also affects his or her reaction to alcohol.

Factors Affecting Individual Reactions to Alcohol

- ▶ How much and how fast a person drinks
- ▶ Body weight
- ▶ Food in the stomach
- ▶ Genetic vulnerability
- ▶ Alcohol tolerance (drinking history)
- ▶ Gender

Figure 3 Alcohol's effects on a person, or on different people, depend on several factors. The same amount of alcohol can have very different effects. Even one drink may be enough to get a person into trouble.

Hands-on ACTIVITY

ALCOHOL AND YOUR BODY

1. With a partner, create a list of alcohol's effects on body systems and a list of alcohol's effects on emotions.
2. Based on the information you have collected, design and make a poster or pamphlet warning people about alcohol consumption.

Analysis

1. Compare the two lists, and note any similarities or differences.

Lesson Review

Using Vocabulary

1. Define *blood-alcohol concentration* (BAC).
2. What is a depressant?

Understanding Concepts

3. How does your body process alcohol?

4. How does an increasing BAC affect your body?

Critical Thinking

5. **Making Inferences** What are three factors that influence a person's reaction to alcohol?

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Topic: **Blood Alcohol Concentration**

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Physical Education/Health Grade 6th-8th

Day 10

Standards	D-8.1.2 Examine the short and long-term effects and consequences of ATOD use, including the impact on society.
Learning Targets/I Can Statements	I can describe how alcohol affects a person's behavior I can identify two risks of drinking alcohol
Essential Questions	What are the health risks of using alcohol
Resources	file:///C:/Users/jacob.scruggs/Documents/Health%20Lessons.pdf
Learning Activities of Experiences	Read: Lesson 2 Answer the following questions after reading Lesson 2: 1. What is alcohol poisoning? 2. Define intoxication in your own words 3. Identify two risks of drinking alcohol 4. When some people drink, they think they can do anything. What are some of alcohols effects that may lead to that feeling? 5. Why is alcohol often related to violent incidents?

Lesson 2

What You'll Do

- Describe how alcohol affects a person's behavior.
- Identify two risks of drinking alcohol.

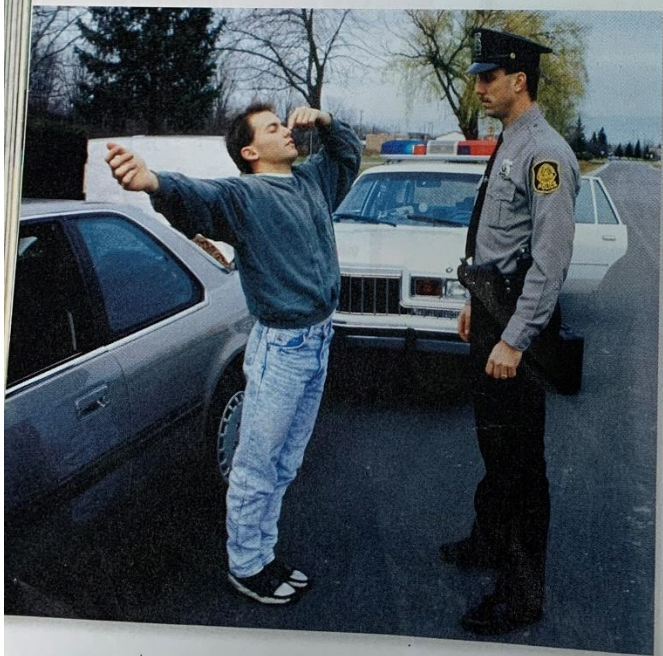
Terms to Learn

- intoxication
- alcohol poisoning
- hangover

Start Off Write

What are some effects of drinking alcohol?

Figure 4 Drinking affects both physical and mental abilities. Don't ride with someone who has been drinking.



Immediate Effects of Alcohol

Thomas felt terrible on Saturday morning. He drank beer at a friend's house on Friday night and was really sick. He threw up several times before he went to sleep.

Why would drinking alcohol make Thomas sick?

Losing Control

Alcohol causes intoxication (in TAHKS i KAY shuhn). **Intoxication** is the physical and mental changes produced by drinking alcohol. Mild intoxication may cause mental effects such as feeling relaxed and friendly. As intoxication increases, your feelings and behavior may become exaggerated and your judgment, sense of risk, concentration, and self-control decrease. And alcohol may produce unexpected feelings. After having some drinks, someone who is sad may unexpectedly become very angry.

At the same time, alcohol is causing physical effects. For example, if you are mildly intoxicated, you may feel lightheaded. As BAC rises, you become less responsive to the things that are going on around you. As intoxication increases, thinking clearly becomes impossible. Anything requiring mental or physical coordination, such as walking or driving, is seriously affected. Drinking too much alcohol can cause alcohol poisoning. **Alcohol poisoning** is the damage to physical health caused by drinking too much alcohol. It is a drug overdose, and it can be fatal.

Thomas was sick the next day, too. He had a hangover. A **hangover** is the uncomfortable physical effects caused by alcohol use, including headache, dizziness, stomach upset, nausea, and vomiting. These effects result when the body processes alcohol. The process upsets the body's water balance and causes the blood to become more acidic than it normally is. As a result, a person who has a hangover does not feel well.



Figure 5 Heavy drinking can lead to alcohol poisoning or death. Don't risk death. Control your life and don't drink.

Injury and Harm

As BAC rises, you become less likely to see risks or predict possible harmful consequences. You become less alert and less aware of what is going on around you. These factors decrease your ability to recognize or protect yourself from possible dangers. When you combine this loss of judgment with your loss of coordination and concentration, injuries become more likely.

Drinking also makes you less aware of other people's feelings. You may have trouble understanding what other people say or do or what they intend. And alcohol can change your mood quickly. You may have been happy a minute ago, but now you are angry. These mood swings can play a major role in causing arguments, injuries, and violence. Alcohol is often involved in fights, assaults, car crashes, robberies, or abuse of others. But alcohol is not an excuse for harming others or for damaging property. You are still responsible for your actions.

Lesson Review

Using Vocabulary

1. What is alcohol poisoning?
2. Define *intoxication* in your own words.

Understanding Concepts

3. Identify two risks of drinking alcohol.

Critical Thinking

4. **Making Inferences** When some people drink, they think they can do anything. What are some of alcohol's effects that may lead to that feeling?
5. **Analyzing Ideas** Why is alcohol often related to violent incidents?