

*my*Perspectives™
ELD Companion



Grade 11



myPerspectives
ELD Companion Workbook

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Contents

“Managing Stress”

Summary / Visual Summary	1
Reader’s Companion	2
Reading Wrap-Up	16
Edit for Meaning	17
Focus on Details.	19
Read for Fluency	20

“Your Brain and Nervous System”

Summary / Visual Summary.	21
Reader’s Companion	22
Reading Wrap-Up	30
Edit for Meaning	31
Focus on Details.	33
Read for Fluency	34

From *What Do You Stand For? For Teens: A Guide to Building Character*

Summary / Visual Summary	35
Reader's Companion	36
Reading Wrap-Up	44
Edit for Meaning	45
Focus on Details.	47
Read for Fluency	48

From *Crime Scene: How Investigators Use Science to Track Down the Bad Guys*

Summary / Visual Summary	49
Reader's Companion	50
Reading Wrap-Up	62
Edit for Meaning	63
Focus on Details.	65
Read for Fluency	66

From *Freedom Walkers: The Story of the Montgomery Bus Boycott*

Summary / Visual Summary	67
Reader's Companion	68
Reading Wrap-Up	74
Edit for Meaning	75
Focus on Details	77
Read for Fluency	78

"Speak Your Mind"

Summary / Visual Summary	79
Reader's Companion	80
Reading Wrap-Up	86
Edit for Meaning	87
Focus on Details	89
Read for Fluency	90

Contents

"Take a Chance" / "A Survival Mini-Manual"

Summary / Visual Summary	91
Reader's Companion	92
Reading Wrap-Up	102
Edit for Meaning	103
Focus on Details.	105
Read for Fluency	106

From Franklin Delano Roosevelt: The New Deal President / Eleanor Roosevelt

Summary / Visual Summary	107
Reader's Companion	108
Reading Wrap-Up	114
Edit for Meaning	115
Focus on Details.	117
Read for Fluency	118

"Furious Feuds: Enemies by Association"

Summary / Visual Summary.	119
Reader's Companion	120
Reading Wrap-Up.	128
Edit for Meaning	129
Focus on Details.	131
Read for Fluency	132

From *Conflict Resolution: The Win-Win Situation*

Summary / Visual Summary.	133
Reader's Companion	134
Reading Wrap-Up.	146
Edit for Meaning	147
Focus on Details.	149
Read for Fluency	150

Contents

**From *Oh, Rats! The Story of Rats and People /*
*From Outbreak: Plagues That Changed History***

Summary / Visual Summary	151
Reader's Companion	152
Reading Wrap-Up	162
Edit for Meaning	163
Focus on Details.	165
Read for Fluency	166

From *Top Secret: A Handbook of Codes, Ciphers, and Secret Writing*

Summary / Visual Summary.	167
Reader's Companion	168
Reading Wrap-Up	178
Edit for Meaning	179
Focus on Details.	181
Read for Fluency	182

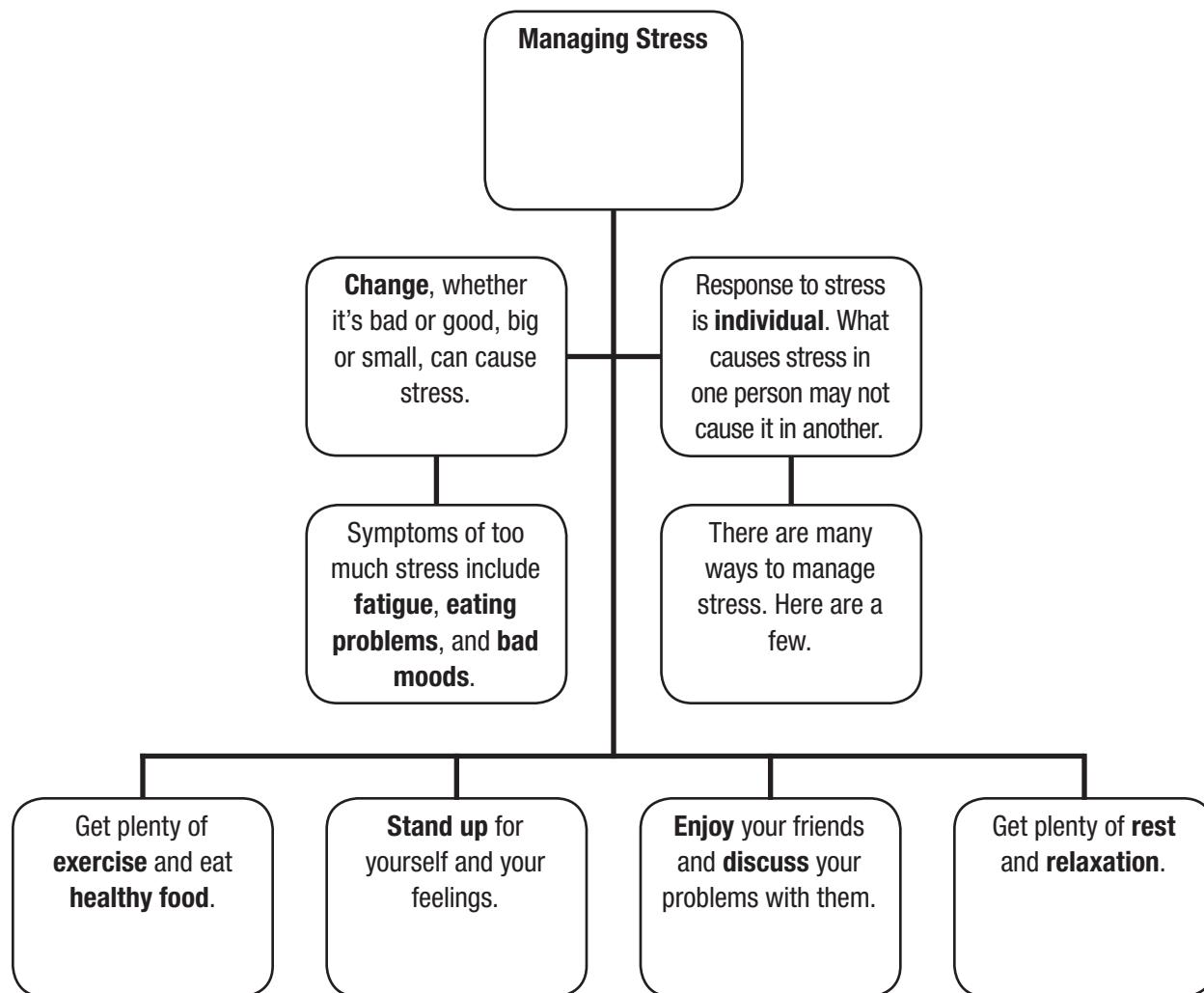
Why should we reach out to others?

"Managing Stress"

SUMMARY

This science article explains the causes of stress. It also suggests ways to manage it. The article explains that stress is caused by change. Stress can be caused by bad changes, like losing a job. Stress can also be caused by good changes. Too much stress can cause physical, psychological, and social problems. People react to stress in different ways. An event that causes a lot of stress in one person can cause no stress in another person. There are many ways to manage stress. One way is to stay healthy. Eat a balanced diet, exercise, and get enough rest. Developing skills like problem solving and role-playing can also help manage stressful situations.

Visual Summary





Use What You Know

List three things that cause you stress.

1. _____
2. _____
3. _____

Reading Strategy: Preview

Previewing before you read gives you an idea of what the text will be about. Circle the title.



Based on the title, what do you think the article will be about?

Text Structure

A science article often presents a fact and provides examples to support it. In the second paragraph, underline two examples of things that can cause stress. What fact do these examples support?



Managing Stress

by Sara Lennard-Brown

Stress means different things to different people. Everyone has a personal view of stress, even the experts. The most commonly accepted view of stress was developed by Richard Lazarus, an American psychologist, in 1966. He felt that stress was all about change and that each individual responds to changes (he called changes "stressors") in a unique way. This means that any change in your life, your mind, your friends and family, your body, or your environment is, to some extent, stressful. Arguing with your friends or even catching a cold involves change and therefore is stressful.

The important thing to remember is that any change is stressful—good changes as well as bad ones. A surprise birthday party and passing exams are examples of pleasurable things that can cause stress. Going to a party or passing exams can cause excitement and worry.

commonly accepted, agreed with by most people

Examples of Things That Cause Stress

Good Things

- Surprise birthday party
- Scoring the winning goal
- Passing exams
- Holidays
- Moving to a new home

Bad Things

- Being ill
- Missing the goal
- Failing exams
- Traffic delays
- Moving to a new home

Even imagining change can be stressful. For example, thinking about what life would be like if someone you love fell ill, or what you would do if you became very poor or even rich, all involve worrying. Worrying about changes, whether they are good or bad, is stressful.

Different people respond to stressful situations in different ways. Changes that result in too much stress in one person may not affect another person. According to some researchers, approximately one person out of ten has a very low stress threshold (tolerance level) and will feel overwhelmed and distressed by normal everyday life.

tolerance level, the degree to which someone can suffer

Reading Strategy:

Preview

Science articles often include tables to illustrate or expand points in the text.



Circle the title of the table and the heading of each column. In your own words, summarize what you think this table will tell about.

Comprehension Check

Underline examples of thoughts that can be stressful. Why are these thoughts stressful?



Comprehension Check

Underline the number of people who have a low stress threshold. What percent of the population is this?





Reading Strategy:

Preview

Preview the table.

Underline the heading of each column. Which column provides details about the effects of stress on a person's body?



Comprehension Check

Underline what the table says are two sleep-related physical problems



that stress can cause. How do you think "difficulty going to sleep" and "tiredness during the day" are related?

Text Structure

Charts and tables sometimes list extra information in parentheses.



Look at the table and underline the information in parentheses. How do you suppose stress can cause dental problems?

Too Much Stress Can Cause . . .

Physical Problems

- Tiredness during the day
- Difficulty going to sleep
- Frequent waking at night
- Aches and pains
- Increased number of infections
- Palpitations (heart racing)
- High blood pressure
- Heart attacks
- Stomach cramps or ulcers
- Dental problems (due to excessive teeth grinding)
- Skin problems

Psychological Problems

- Vivid dreams
- Lack of interest in the world
- Lack of motivation
- Irritability
- Tearfulness
- Anxiety
- Poor performance at school
- Eating problems (too much or too little)

Social Problems

- Increasing problems at home
- Tendency to avoid people
- Increased aggression (particularly in young men)
- Inappropriate behavior
- Overreaction to problems
- Ignoring problems

motivation, desire to do something
irritability, state of being easily annoyed
aggression, angry or threatening behavior

Many factors affect the way you respond to stress as an individual. These include your genetic makeup, personality type, culture, religion, family and social background, health, environment, and life events.

Is Your Personality ...

Type A

- Never late
- Competitive
- Anticipate what others are going to say
- High achiever
- Impatient
- Tense
- Tackle more than one task at a time
- Emphatic in speech
- Care about others' opinions
- Quick
- Driven

Type B

- Relaxed about time keeping
- Not competitive
- Good listener
- Balanced approach to achievement
- Good at waiting in line
- Relaxed
- Taking one step at a time
- Slow deliberate speech
- Self-reliant
- Slow-moving
- Easy-going

genetic, relating to genes

anticipate, expect something to happen

emphatic, said in a way that shows something is important

self-reliant, able to act and make decisions by yourself

Comprehension Check

Underline examples in the paragraph of things that determine how a person responds to stress. Which of these factors might a person be able to control or change?



Text Structure

A science textbook often has highlighted words. Their definitions are at the bottom of the page. Circle the highlighted words on this page. Look at their definitions. Choose one of the words. Write a new sentence that uses the word correctly.



Comprehension Check

Underline the personality characteristics in the table that describe you.

In general, are you a type A personality or a type B personality? Explain your answer.





Comprehension Check

Underline the examples in the text of very stressful life changes.
Why do you think these events are particularly stressful?



Text Structure

Science articles often offer solutions to problems. Underline what the article says a person should do if things become overwhelming. Why do you think it's important for someone who feels overwhelmed by stress to do this?



Comprehension Check

Underline what the text says that a person can do to prevent stress from being a problem. What do you do to take care of yourself and prevent or reduce stress in your life?



It is well known that some changes in your life are more stressful than others. Events such as the death of a close friend or relative, being suspended from school, or moving to a new place can be particularly challenging. Major changes like these have long-term effects on your life.

Sometimes, no matter how carefully you try to stay healthy and manage stress, things can become overwhelming. If that happens it is important to get help. Go and see your family doctor or other healthcare professional and ask for advice. However, there are many simple ways to prevent and manage stress. Taking time to take care of yourself can prevent stress from becoming a problem in your life.



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Stress Scores of Life Events*

• Divorce	73
• Death of a close family member	63
• Personal injury or illness	53
• Expelled from school	47
• Change in health of a family member	44
• Gain of a new family member	39
• Death of a close friend	37
• Outstanding personal achievement	28
• Beginning or end of school	26
• Change in living conditions	25
• Change in personal habits	24
• Change in residence	20
• Change in school	20
• Change in recreation	19
• Change in social activities	18
• Change in sleeping habits	16
• Change in number of family get-togethers	15
• Change in eating habits	15
• Vacation	13

*on a scale of 1 to 100

Reading Strategy:

Preview

Preview the table and circle the title. What do the numbers in the right column show? What does a large number represent?



Text Structure

Science articles often present additional information in a table that supports information in the article. What information in the article does the table on this page support?

Comprehension Check

Underline the life event with the lowest stress score in the table.



Based on the article, why do you think this event might be stressful for some people?



Text Structure

A science textbook often has highlighted words. Their definitions are at the bottom of the page. Circle the highlighted word on this page. Look at its definition. Reread the sentence in which it appears. Rewrite the sentence without using the word.

**Comprehension Check**

Circle the amounts of complex carbohydrates, protein-rich foods, and fat you should eat.
According to the article, which should you eat more of complex carbohydrates or protein-rich foods?

**Comprehension Check**

Underline what the text says about how many servings of fruit and vegetables you should eat each day to get enough vitamins. How many servings of fruits and vegetables do you eat each day? What are some examples of fruits and vegetables you eat most days?

**Healthy Eating**

Being fit and healthy is a sure way to maximize your ability to manage stress. Healthy eating is **vital** to staying fit and healthy. A healthy diet includes

- plenty of fresh fruit and vegetables;
- lots of complex carbohydrates, such as whole-wheat bread, potatoes, pasta, and rice;
- moderate amounts of protein-rich foods, such as fish, chicken, soy, nuts, eggs, or red meat;
- and some fat, as in butter, margarine, oil, milk, and cheese, but in much smaller amounts.

Eating five servings of fruit or vegetables per day is recommended to ensure an adequate daily vitamin intake. Vitamins are important since they help our bodies grow and function properly and fight off infections.

vital, extremely important or necessary

What you eat now will affect your health and therefore the amount of stress in your life as you grow older. Teenagers who get too little calcium—present in milk, cheese, bread, and green, leafy vegetables—increase their risk of osteoporosis (**brittle** bones) as adults. Eating too much saturated fat when you are young can increase your risk of heart disease later in life.

As with most things in life, healthy eating involves moderation. Too much food or too little will cause your body chemistry to change and will therefore be a source of stress. If you feel that you weigh too much or too little, then talk to a doctor or healthcare professional.

brittle, easily broken



Comprehension Check

Underline examples of foods containing calcium. What will happen to people who don't get enough calcium in their teen years?



Text Structure

Science articles sometimes put definitions for scientific words in parentheses. Underline the information in parentheses in the first paragraph. What does *osteoporosis* mean?



Comprehension Check

Look at the second paragraph. Underline the two phrases in the second sentence that mean the opposite of *moderation*. How can not eating in moderation cause stress?





Comprehension Check

Underline the two ways mentioned in the first paragraph that exercise can help you manage stress. How can being fit or taking time out to relax help you manage stress?



Text Structure

Most paragraphs in a science article have a "topic sentence" that tells the main idea of the paragraph. Underline the topic sentence in the first paragraph. Rewrite it using your own words.



Comprehension Check

Underline examples of how people incorporate exercise into daily life. What are some activities you can do today?



Exercise

Exercise is a vital part of fitness. The fitter you are, the better able you will be to manage the stresses of life. Exercise is also an excellent way to relax and "turn off" for a while. Most experts feel that you need to get 20 to 30 minutes of exercise three times a week to stay healthy. However, if you have a health problem or if you are very unfit, it is best to consult your doctor before you start a new exercise program.

Some people find it better to incorporate exercise into their daily lives rather than going to special exercise classes. This can involve sports activities such as brisk walking or bicycling rather than taking the car or bus, and using the stairs rather than the elevator.

incorporate, include



Rest and Relaxation

Learning how to relax is a very good way of managing stress. It can help to reduce anxiety and combat the physical effects of too much stress such as chest pain and sleep problems. There are many different ways of relaxing. Some forms of exercise, such as swimming, are very good for leaving your body relaxed. **Massage** and **hydrotherapy** have a similar effect.

hydrotherapy, the medical use of water to treat injuries or diseases



Text Structure

Science articles often have headings for sections. They tell the reader what the next section is about. Circle the heading for this section. After reading the section, write a new heading for it on the lines below.



Comprehension Check

The second sentence begins with the word *it*. Circle what *it* refers to in the first sentence. How can it be helpful for reducing stress?



Comprehension Check

Underline the three examples the text provides of how to relax the body. Which one of these examples is a sport? Do you agree that sports can help a person relax?



Reading Strategy: Preview

Preview the boxed information by looking at the heading. Circle the heading. In your own words, write what you think this section will be about.



Text Structure

Science articles often give step-by-step instructions on how to do something. Circle the numbered steps for this relaxation technique. How many steps are there to this technique?



Comprehension Check

Look at the third step. Underline the direction you should go in when relaxing parts of your body. What's the last part of your body you should tense and relax?



Relaxation Technique

1. Curl up your toes and tense your left foot. Let your foot relax. Think about it feeling warm and heavy and floppy. Repeat this twice.
2. Repeat this procedure with your left calf muscle, your left thigh, then with your right foot, calf, and thigh.
3. Now move slowly up your body, tensing and relaxing and thinking about each individual area—your bottom, stomach, back, chest, right shoulder, left shoulder, right hand, right forearm, right upper arm, then your left arm, forearm, and upper arm. Then slowly tense and relax your neck, then your jaw. Scrunch your face and let it relax a few times.
4. Now that you are fully relaxed, think about your breathing. Try to empty your mind of everything except breathing in and out. If other thoughts intrude, notice them, then put them away and think about your breathing again. Breathe slowly in through your nose, then out through your mouth. Repeat this for a few minutes as long as it feels comfortable.
5. Relax, and return to your normal activities.

Role Playing

Role play involves imagining a situation—for example, trying to resist friends who are trying to get you to do something you think is wrong—and then figuring out how you could manage it. What could you say? How might people react?

Assertiveness

Assertiveness is an important skill that can help you manage stress. When you are being assertive, you stand up for yourself and express your point of view in a manner that is direct, honest, appropriate to your situation, and respectful of the needs of the people you are dealing with.



Reading Strategy:

Preview

Circle the heading of the first paragraph. How do you think the information in this paragraph will relate to stress?



Text Structure

Science articles sometimes define key words within a sentence or paragraph.



Underline the definition of "role play" in the first paragraph. What is a stressful scenario you might role-play, other than the one that is described in this paragraph?

Comprehension Check

Circle the way you should express your point of view. How is being assertive different from being impolite or rude?





Comprehension Check

Underline the common saying in the first paragraph. In your own words, write what you think this saying means.



Text Structure

Science articles often discuss cause and effect.



A cause is a reason something happens

and an effect is the result. In the second paragraph, underline the effect that too much stress can have on people. Why do you think too much stress can have this effect on people?

Comprehension Check

In the second paragraph, underline ways to help someone feel better. Why do you think doing these things will help someone feel better?



Being a Friend

We all need to help each other to manage stress.

There are various ways you can do this. The most obvious way is by listening. It is a common saying that a problem shared is a problem halved, but it is not just problems we have to listen to. In order to have healthy, supportive relationships, you need to be able to share joys and sorrows.

Often, when people experience too much stress, they feel sad and negative. It can help them to know that you love and value them. Tell them the things that you like about them. If someone does something you like or admire, tell him or her.



How to Problem Solve

Problem solving is a useful strategy for managing stressful situations.

1. Sit with a piece of paper and figure out exactly what the problem is. You may find that there is more than one problem, or that some of your problems are really worries. Make a list of your problems.
2. Make a list of different ways of dealing with each problem. Brainstorm: write down anything you can think of that might help the situation.
3. Think carefully about the different strategies you have come up with. What would happen if you tried each one? Pick a strategy that you think will be safe and effective. It can be helpful to talk through options with a friend. Make sure you think about how your strategy will affect other people.
4. Try out the strategy.
5. Evaluate how effective it was. Did it work? Did it help a little? How can you improve on the strategy?

Considering all possible solutions is a systematic approach to solving the problem.

Comprehension Check

Look at step one. Underline two things the text says you might find out about your problem. How will knowing that there's more than one problem be helpful?



Text Structure

Science articles sometimes use a colon (:) to indicate details. Circle the colon in step two. How should you brainstorm?



Comprehension Check

In step five, underline the questions you should ask when you evaluate your strategy. If your strategy doesn't work, what should you do?



Choose one and complete:

1. Draw a poster that shows some causes of and treatments for stress.
2. With a friend, make a "stress chart" that tells about the stresses you feel in a given week. Rate each stress with a number between 1 (low stress) and 100 (very high stress).
3. With a friend, role-play a stressful situation that you have experienced. While role-playing, try to think of a healthy way to respond to it.



READING WRAP-UP

Retell It!

Suppose a friend tells you that he or she is feeling stressed. On the lines below, give your friend some advice about how to reduce stress and feel better.

Reader's Response

Diet and fitness are important aspects for healthy living and low stress. What are some ways you personally can improve your diet and stay fit?

Think About the Skill

How did previewing the headings and charts in the text help you better understand the article?





EDIT FOR MEANING

Read

You have read "Managing Stress." Now read one paragraph from it again.

Managing Stress

Different people respond to stressful situations in different ways. Changes that result in too much stress in one person may not affect another person. According to some researchers, approximately one person out of ten has a very low stress threshold (tolerance level) and will feel overwhelmed and distressed by normal everyday life.

The paragraphs below and on the next page contain the same information as the paragraph you just read. However, each contains one error. First, find the error. Then fix it by editing the sentence so that the information is correct. The first one has been done for you.

Example:

Managing Stress

Everyone responds to stress in their own way. Changes that cause a great deal of stress in one person ~~will cause every human being the exact same amount of stress.~~ ^{may not harm another person at all.} Some scientists who do research on stress say that about one person out of ten cannot handle very much stress and will feel very upset by things that happen in everyday life.

Fix the Error

1. Find and fix the error.

Managing Stress

People react to stressful events in their lives differently. A change that causes one person a lot of stress may cause another person very little. According to some researchers, approximately one person out of ten has a very low stress threshold (tolerance level)—those people will feel happy and carefree as they go about daily life.

2. Find and fix the error.

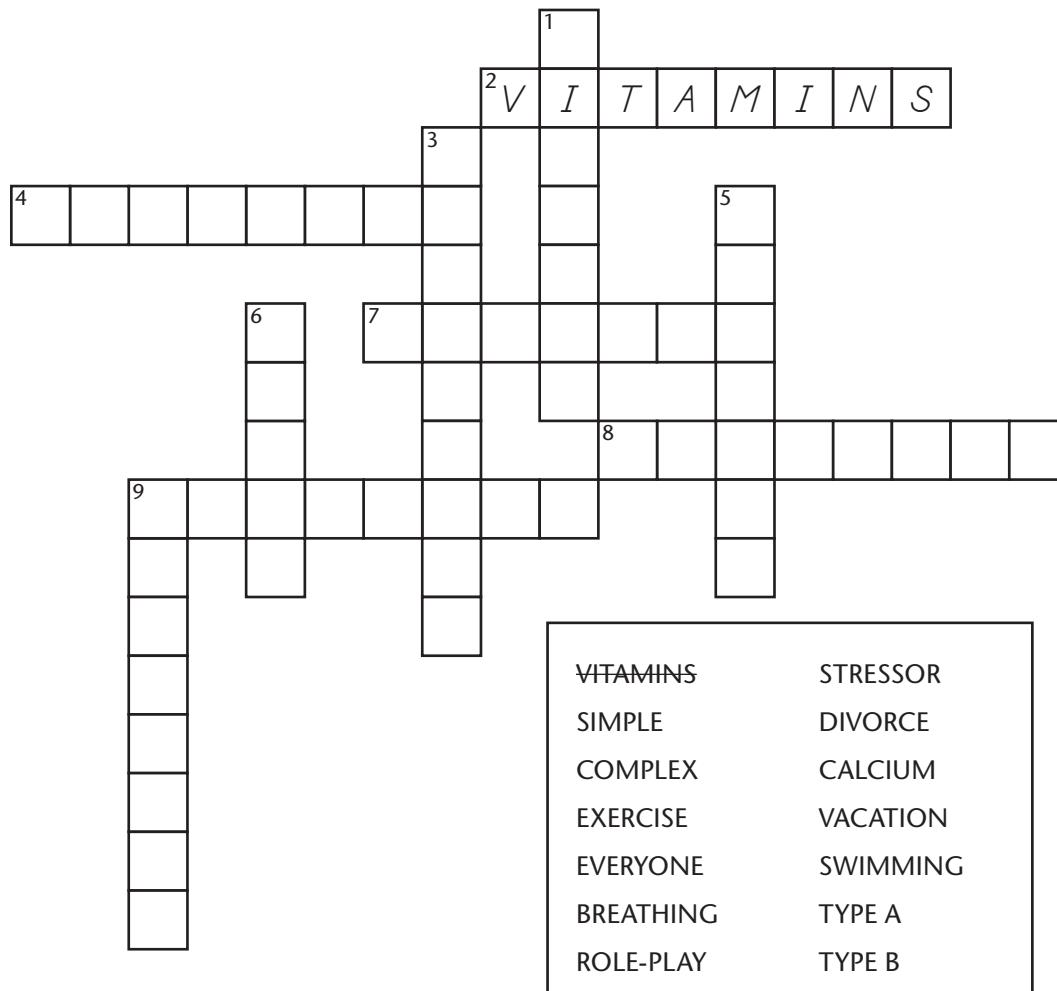
Managing Stress

Most people react to stressful situations in the same way. Something may be very stressful to one person but not to another. Some researchers say that approximately 10 percent of people have a very low stress tolerance level. These individuals can't tolerate stress very well. Everyday life is often too much for them and causes them terrible stress.

FOCUS ON DETAILS

Crossword Puzzle

To complete this crossword puzzle, you'll need to remember or search for details from the reading. Use the words in the word box to help you. Not all of the words in the word box are in the puzzle. Fill in the crossword with answers to the clues below. The first answer has been done for you.



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Across

2. They help our bodies grow and fight off infections
4. Any change, according to Dr. Lazarus
7. This strengthens your bones
8. To act out an imaginary situation
9. Healthy physical activity

Down

1. A highly stressful family life change
3. This is done slowly and deeply to relax
5. Healthy carbohydrates
6. Tense, driven personality
9. Who reacts differently to stress

READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.
2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.
3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.
4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.
5. Write down any words that slowed you down. Practice saying these words out loud.
6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

Exercise

Exercise is a vital part of fitness. The fitter you are, the better able you will be to manage the stresses of life. Exercise is also an excellent way to relax and “turn off” for a while. Most experts feel that you need to get 20 to 30 minutes of exercise three times a week to stay healthy. However, if you have a health problem or if you are very unfit, it is best to consult your doctor before you start a new exercise program.

Some people find it better to incorporate exercise into their daily lives rather than going to special exercise classes. This can involve sports activities such as brisk walking or bicycling rather than taking the car or bus, and using the stairs rather than the elevator.

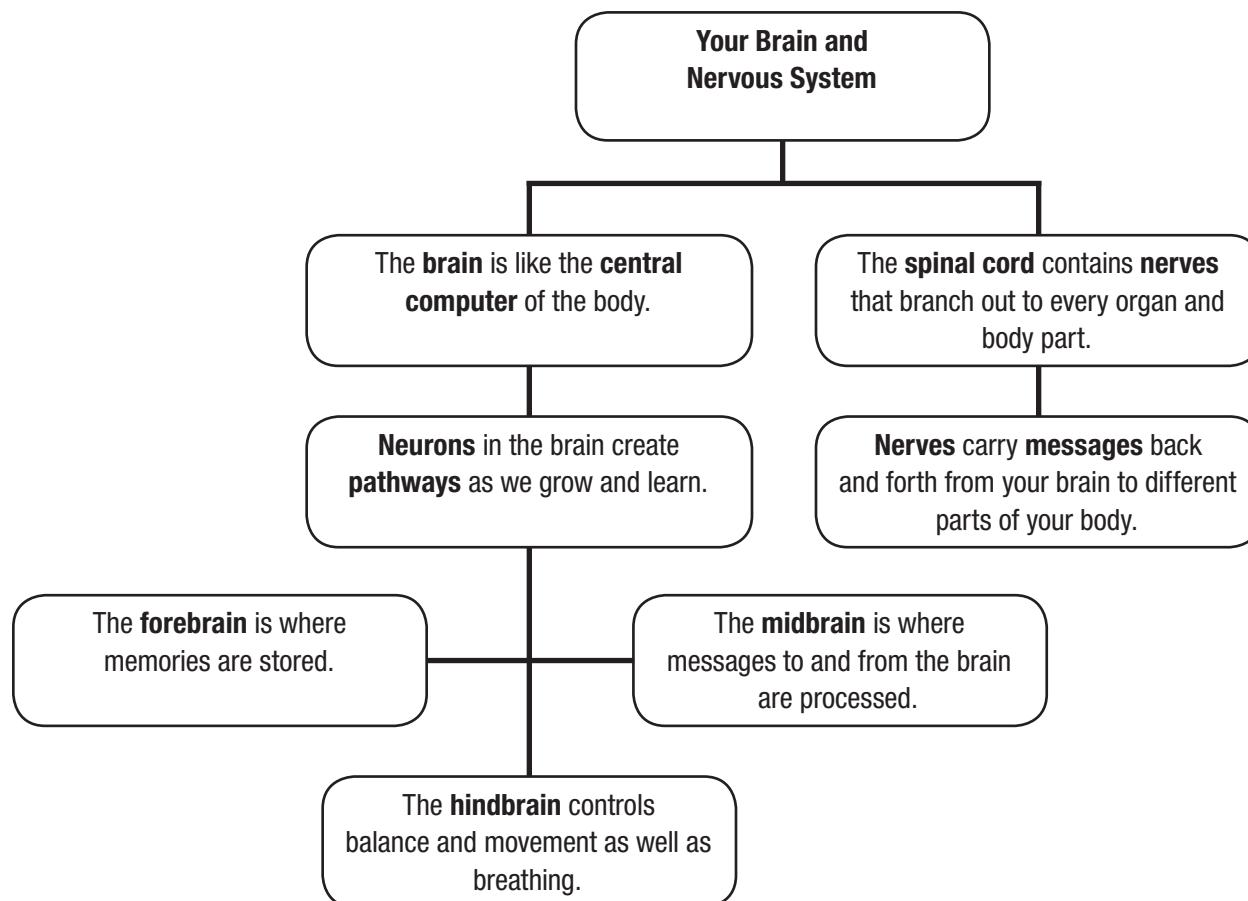
Why should we reach out to others?

"Your Brain and Nervous System"

SUMMARY

This science article tells about the human brain and nervous system. The brain controls all the functions of the body. The nervous system sends messages between the body and the brain. The brain and nervous system control intelligence, learning, and memory. The three main parts of the brain are the forebrain, midbrain, and hindbrain. The forebrain contains all the information that makes up who we are, such as our intelligence, memory, and personality. The midbrain organizes the messages going to and from the brain. The hindbrain is responsible for our balance and movement. It also controls automatic functions like breathing and heart rate.

Visual Summary





Use What You Know

List three important tasks your brain performs every day.

1. _____
2. _____
3. _____

Text Structure

The introduction to a science article usually provides the main idea of the article. Underline the sentence that contains the main idea. Then rewrite it in your own words.



Reading Strategy: Use Visuals

Visuals such as drawings and diagrams are often used to illustrate information in a science text. Look at the illustration and label the brain. What protects the brain?



Your Brain and Nervous System

When you're taking a big math test, you know that your brain is hard at work. But your brain is doing a lot more than just remembering formulas. Those sweaty palms you get as the test starts? That's your brain at work. The relief you feel when you know an answer's right? That's your brain too.

The brain may simply be the **bossiest** part of the body: It tells virtually every other part of your body what to do, all the time. It not only controls what you think and feel, how you learn and remember, and the way you move your body, but also things such as the beating of your heart and whether you feel sleepy or awake.

formulas, sets of principles you use to solve problems
bossiest, always telling someone what to do





Why Are the Brain and Nervous System Important in Everyday Life?

You can think of the brain as a central computer that controls all the functions of your body. Then think of the nervous system as a network that relays messages back and forth from the brain to different parts of the body. The **nervous system** does this via the **spinal cord**. It runs from the brain down through the back and contains thread-like nerves that branch out to every organ and body part.

When a message comes into the brain from anywhere in the body, the brain tells the body how to react. For example, if you accidentally touch a hot stove, the nerves in your skin shoot a message of pain to your brain. The brain then sends a message back telling the muscles in your hand to pull away.

Comprehension Check

The text compares the brain and nervous system to a computer and network. Underline these comparisons in the text. What do you think would happen if your mental "computer" shut off or was disconnected?



Text Structure

The headings in a science article usually identify the topic of a section. Sometimes they ask questions. Circle the heading on this page. Where will you find the answer to the heading's question?



Comprehension Check

Your nervous system sends two kinds of messages when you touch a hot stove.



Underline the passage in the text that identifies these messages. What kind of messages do you think your nervous system sends when you take a bite of a delicious sandwich?

Comprehension Check

Underline the words that describe the importance of the folds and grooves that make up the brain's surface. If the brain's surface were smooth, how do you think the brain's size would be affected?

**Text Structure**

A science article often provides facts containing measurements such as weight or length.



Underline the facts that contain measurements of weight or length on this page. How do these measurements help you better understand the brain and spinal cord?

Comprehension Check

Underline the passage in the text that tells how neurons send messages. What two words do you think *electrochemical* is related to?

**How the Brain Works**

Considering everything it does, the human brain is incredibly **compact**, weighing just 3 pounds [1.36 kg.]. Its many **folds and grooves**, though, provide it with the additional surface area necessary for storing all of the body's important information.

The spinal cord, on the other hand, is a long **bundle** of nerve tissue about 18 inches [45 cm.] long and $\frac{3}{4}$ inch [2 cm.] thick. It extends from the lower part of the brain down through the spine. Along the way, various nerves branch out to the entire body. These are called the **peripheral nervous system**.

How the Nervous System Works

The basic functioning of the nervous system depends a lot on tiny cells called **neurons**. The brain has billions of them. All neurons relay information to each other through a complex electrochemical process, making connections that affect thinking, learning, movement, and behavior.

compact, small but arranged so that everything fits neatly into the available space
folds and grooves, areas that rise and fall like waves
bundle, small group

Intelligence, Learning, and Memory

At birth, your nervous system contains all the neurons you will ever have, but many of them are not connected to each other. As you grow and learn, messages travel from one neuron to another over and over, creating connections, or pathways, in the brain. It's why riding a bike or driving a car seems to take so much concentration when you first learn but later on becomes second nature: The pathway is established.

In young children, the brain is highly adaptable. But as we age, the brain has to work harder to make new neural pathways, making it more difficult to master new tasks or change established behavior patterns. That's why many scientists believe it's important to keep challenging your brain to learn new things and make new connections.

second nature, a well-learned skill that becomes easy to do

Comprehension Check

Underline the text that explains why riding a bike or driving a car eventually becomes second nature. What's another example of a task that's hard at first but eventually becomes second nature?



Text Structure

Science articles often show what words mean in terms of their opposites. Underline the sentence that describes the opposite of *adaptable*. Then, in your own words, write what the word *adaptable* means.



Comprehension Check

Underline what the text says about how we can keep our brains flexible. Then list three activities you can do to make new mental connections.



1. _____
2. _____
3. _____



Comprehension Check

Underline what happens to information that's important enough to be remembered permanently. Why is long-term memory especially important?



Reading Strategy: Use Visuals

Definitions in a text can help you understand visuals on a page. In the diagram, circle the forebrain. Which information in the text lets you know which part of the brain this is?



Text Structure

A science article often defines key terms and provides examples.



Underline the passage that defines the lobes of the brain and gives examples of them. List their four names here.

1. _____
2. _____
3. _____
4. _____

Memory is another complex function of the brain. The things we've done, learned and seen are first processed in the cortex. Then, if we sense that this information is important enough to remember **permanently**, it's passed inward to other regions of the brain for long-term storage and **retrieval**. As these messages travel through the brain, they create pathways that serve as the basis of our memory.

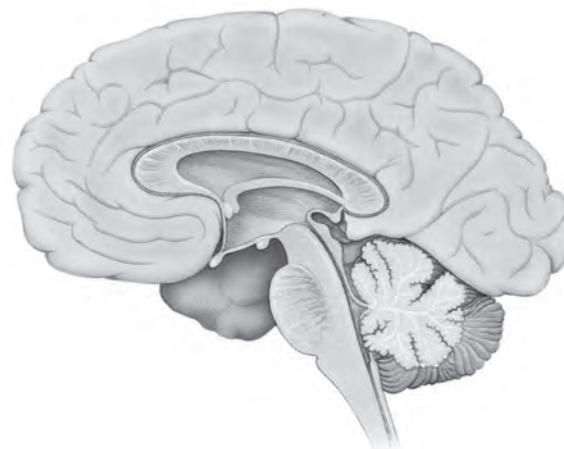
The brain is made up of three main sections: the forebrain, the midbrain, and the hindbrain.

The Forebrain

The forebrain is the largest and most complex part of the brain. It consists of the **cerebrum**. This is the area with all the folds and grooves typically seen in pictures of the brain.

The cerebrum contains the information that essentially makes us who we are: our intelligence, memory, personality, emotion, speech, and ability to feel and move. Specific areas of the cerebrum are in charge of processing these different types of information. These are called **lobes**, and there are four of them: the frontal, parietal, temporal, and occipital.

permanently, forever
retrieval, process of regaining, restoring, or remembering



The cerebrum has right and left halves, called **hemispheres**. These are connected in the middle by a band of nerve fibers (the **corpus callosum**). These fibers enable the two sides to communicate.

Although these halves may look like mirror images of each other, many scientists believe they have different functions. The left side is considered the logical, analytical, **objective** side. The right side is thought to be more **intuitive**, creative, and **subjective**. So when you're doing a math problem you're using the left side. When you're listening to music, you're using the right side. Scientists think that some people are more "right-brained" or "left-brained" while others are more "whole-brained," meaning they use both halves of their brain to the same degree.

objective, not influenced by your own feelings, beliefs, or ideas

intuitive, based on feelings rather than facts

subjective, influenced by personal opinion or feelings rather than facts

Comprehension Check

Underline the function of the *corpus callosum*. What do you think would happen if the connection between the two hemispheres were lost?



Text Structure

A science article often provides examples to illustrate a fact or idea. Circle the examples of activities that use either the left or the right brain. Then give two new examples each of "right-brained" and "left-brained" activities.



Left: _____

Left: _____

Right: _____

Right: _____

Comprehension Check

Underline what the text says about people being "left-brained," "right-brained," or "whole-brained." Why do you think it might be an advantage to be "whole-brained"?





Comprehension Check

Underline the passage that indicates what happens to information coming into the brain.



What do you think happens to a message coming into your brain from your eyes when you see a friend?

Text Structure

A topic sentence contains the main idea of a paragraph. Circle the topic sentence of the second paragraph. Then in your own words, tell what the paragraph is about.



Comprehension Check

Underline the functions of the thalamus, hypothalamus, and pituitary gland.



Imagine that you see a big, barking dog running after you. Explain how each part of the forebrain would help you.

The outer layer of the cerebrum is called the **cortex** (also known as “gray matter”). Information collected by the five senses comes into the brain from the spinal cord to the cortex. This information is then directed to other parts of the nervous system for further processing. For example, when you touch the hot stove, not only does a message go out to move your hand, but one also goes to another part of the brain to help you remember not to do that again.

In the inner part of the forebrain sit the **thalamus, hypothalamus, and pituitary gland**. The thalamus carries messages from the sensory organs like the eyes, ears, nose, and fingers to the cortex. The hypothalamus controls the pulse, thirst, appetite, sleep patterns, and other processes in our bodies that happen automatically. It also controls the pituitary gland. This gland makes the hormones that control our growth, metabolism, digestion, sexual maturity, and how we respond to stress.

The Midbrain

The midbrain, located underneath the middle of the forebrain, acts as a master **coordinator** for all of the messages going in and out of the brain to the spinal cord.

The Hindbrain

The hindbrain sits underneath the back end of the cerebrum. It consists of the cerebellum, pons, and medulla. The **cerebellum** is also called the “little brain” because it looks like a small version of the cerebrum. It is responsible for balance, movement, and **coordination**. The **pons** and the **medulla**, along with the midbrain, are often called the **brainstem**. The brainstem takes in, sends out, and coordinates all of the brain’s messages. It also controls many of the body’s automatic functions, like breathing, heart rate, blood pressure, swallowing, digestion, and blinking.

coordinator, one who organizes activities
coordination, the way the parts of your body work together to do something

Comprehension Check

Underline what the midbrain does. How would the forebrain be affected if there was a problem with the midbrain?



Text Structure

A science textbook often has highlighted words. Their definitions are at the bottom of the page. Circle the second highlighted word on this page. Look at its definition. Reread the sentence in which it appears. Rewrite the sentence without using the word.



Comprehension Check

Underline the automatic functions controlled by the brainstem. Why is it important that these functions occur without our having to think about them?



Choose one and complete:

1. In your own words, write a paragraph that describes what happens in your nervous system when you accidentally touch a hot surface.
2. Choose your favorite animal. Do research on how your favorite animal’s brain works. Then, create a table that shows differences and similarities between the human and your chosen animal’s brains, intelligence, and memories.
3. Make your own diagram of the brain. Label each part and tell what it does.



READING WRAP-UP

Retell It!

Suppose a friend wonders how memories are made. In your own words, describe how your brain and nervous system receive sensory data and turn it into memories.

Reader's Response

Many people receive brain or spinal cord injuries each year as a result of auto accidents. How can drivers and passengers possibly avoid brain or spinal injuries in an accident?

Think About the Skill

How did focusing on the visuals help you better understand the article?



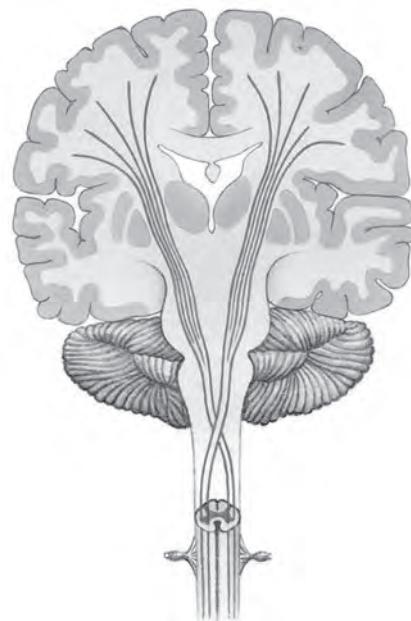
EDIT FOR MEANING

Read

You have read "Your Brain and Nervous System." Now read one paragraph from it again.

Intelligence, Learning, and Memory

At birth, your nervous system contains all the neurons you will ever have, but many of them are not connected to each other. As you grow and learn, messages travel from one neuron to another over and over, creating connections, or pathways, in the brain. It's why riding a bike or driving a car seems to take so much concentration when you first learn but later on becomes second nature: The pathway is established.



Fix the Error

Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so that the information is correct.

1. Find and fix the error.

Intelligence, Learning, and Memory

When you are born, your nervous system contains all the neurons you will ever have, but there are no connections between many of them. As you grow and learn, new neurons are formed, which create connections, or pathways, in the brain. That's why you really have to concentrate when you first learn new tasks like riding a bike or driving a car. Later, these tasks are much easier to accomplish, because a pathway has been formed.

2. Find and fix the error.

Intelligence, Learning, and Memory

At birth, your nervous system does not contain very many neurons, and many of them are not connected to each other. As you grow up and learn new things, messages repeatedly travel from neuron to neuron to make new paths in the brain. As you know, learning to ride a bike or drive a car are not easy tasks when you first start. You have to really pay attention to accomplish these tasks. However, later you find out that it's easy to do these things. That's because connections, or pathways, have been made between certain neurons.

FOCUS on DETAILS

Word Search Puzzle

To complete this word search puzzle, you'll need to remember or search for details from the reading. Look at the clues and circle the answers in the puzzle below. Check off each clue after you've found the answer. Write the word next to its clue. The first answer has been done for you.

1. Occurring regularly, without conscious control automatic
2. The process of breaking down food for energy _____
3. Opening and closing your eyes _____
4. Forever, not temporary _____
5. Most commanding or controlling _____
6. Moves back and forth between two points _____
7. Organs that flex and extend to move your limbs _____
8. Thread-like bundles of cells that transmit sensory data _____
9. Having the power to create or make things up _____
10. Character traits that define a person _____

M	R	B	A	N	Q	O	Q	M	T	C	P	G	M	A
P	E	L	O	F	E	S	B	N	S	R	V	E	G	U
X	A	T	I	S	E	R	E	R	G	E	N	Q	K	T
F	H	P	A	L	S	N	V	D	Q	A	M	Z	L	O
O	K	E	C	B	A	I	J	E	R	T	T	J	H	M
Q	B	S	I	M	O	Z	E	X	S	I	I	H	Y	A
X	U	D	R	Z	Y	L	A	S	Q	V	C	W	J	T
M	Z	E	X	K	X	L	I	R	T	E	Z	V	X	I
X	P	R	E	L	A	Y	S	S	R	W	V	I	D	C
B	L	I	N	K	I	N	G	L	M	I	Q	D	B	B
X	F	J	K	C	I	K	U	Y	A	U	J	A	L	T
P	E	R	S	O	N	A	L	I	T	Y	Y	A	X	B
L	X	J	K	H	E	N	K	F	X	J	G	V	Y	S
W	H	R	G	L	F	E	C	Z	P	H	K	H	E	L
L	Y	D	A	R	W	V	T	G	X	V	S	S	R	I

READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.
2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.
3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.
4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.
5. Write down any words that slowed you down. Practice saying these words out loud.
6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

Intelligence, Learning, and Memory

At birth, your nervous system contains all the neurons you will ever have, but many of them are not connected to each other. As you grow and learn, messages travel from one neuron to another over and over, creating connections, or pathways, in the brain. It's why riding a bike or driving a car seems to take so much concentration when you first learn but later on becomes second nature: The pathway is established.

In young children, the brain is highly adaptable. But as we age, the brain has to work harder to make new neural pathways, making it more difficult to master new tasks or change established behavior patterns. That's why many scientists believe it's important to keep challenging your brain to learn new things and make new connections.

What shapes our identity?

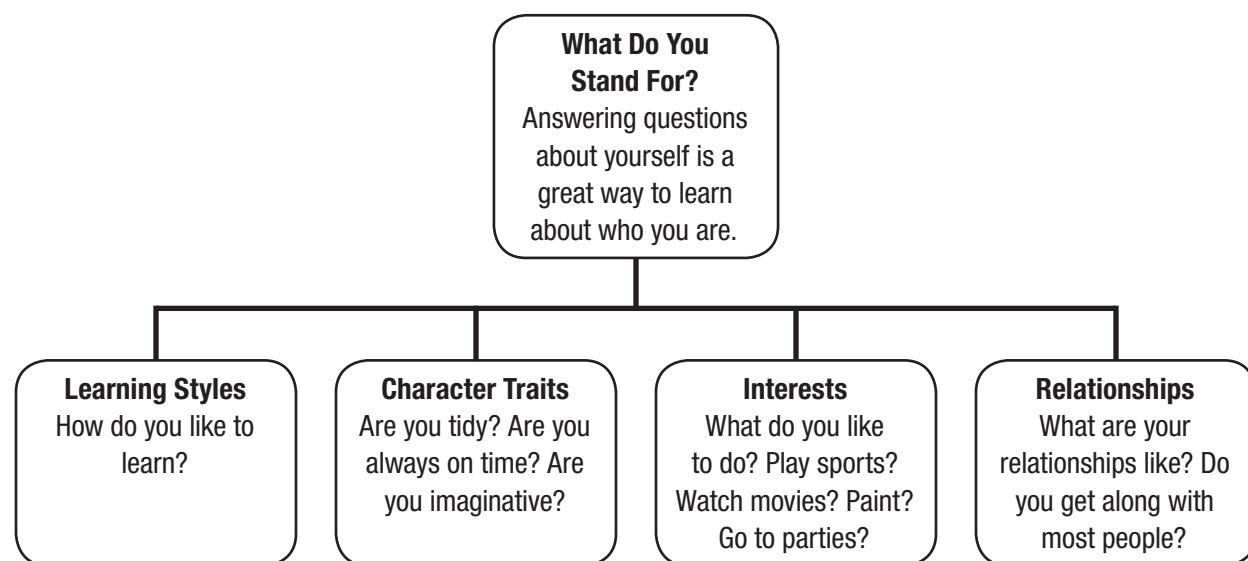
From *What Do You Stand For?*

For Teens: A Guide to Building Character

SUMMARY

These four quizzes help readers understand themselves better. In the first quiz, readers describe how they learn. In the second quiz, readers describe their personality and character. In the third, readers identify their interests. In the fourth, readers describe how they feel about their relationships with other people. At the end, the author explains what the readers' choices say about who they are.

Visual Summary





Use What You Know

Name one thing that you believe strongly. Explain why.

Text Structure

Headings can give readers more information about the content of an article.



Underline the heading of this article. What does it indicate the article will be about?

Reading Strategy: Classify

Some informational texts classify, or put things into groups or categories. Underline the words that mention the category that items 1 through 4 belong to. What is the same about items 1 through 4?



From *What Do You Stand For? For Teens: A Guide to Building Character* by Barbara A. Lewis

Learning Styles Inventory

Read the following descriptions. Check the ONE that sounds most like you.

1. I like to know *why* things happen. I like to consider many different ideas. I have a good imagination, and I usually come up with good ideas. I like to find solutions to problems and issues. I like practical solutions. I don't like to set schedules; I'm very flexible.
2. I like to think about concepts. I enjoy listening to guest speakers. I love theories about *what* makes things work. I like to work hard and prefer following definite steps to find solutions. I enjoy studying principles and details, and I like columns and figures.
3. I like to know *how* things work. I enjoy lectures and abstract ideas. I like to experiment, solve problems, and make decisions. I enjoy technical tasks more than "people problems." I like to tinker, and I like schedules.
4. I like to talk about "what if" situations. I enjoy real, concrete experiences. I like to apply what I learn. I rely on my gut feelings more than on logic. I love taking risks, and I enjoy helping other people to be creative. I bring action to ideas.

tinker, fix things

Character Traits Inventory

Read each pair of sentences. Check the ONE from each pair that describes you. Or check BOTH sentences if you believe that you already have a particular trait or quality but would like to develop it further.

1. I have positive attitudes.
 I'd like to have better attitudes.
2. I'm kind and I care about helping others.
 I need to be kinder and more caring.
3. I accept responsibility for the choices I make.
 I want to learn how to accept responsibility for my choices.
4. I'm a good citizen and an involved member of my community.
 I want to be a better citizen and more involved in my community.
5. I keep my body clean.
 I need to work on my personal hygiene.
6. I have clean habits and a clean mind.
 I'd like to have more positive habits, thoughts, and influences.
7. I communicate well with others.
 I'd like to be a better communicator.
8. I work to **conserve** things and resources, and I'm **thrifty**.
 I need to conserve and save better than I do.
9. I have the courage to do and become what I want to be.
 I'd like to be more courageous.

conserve, use as little as possible so as not to waste
thrifty, careful with money

Comprehension Check

Circle the word that appears in item 5 and item 6 but has a different meaning.



What does that word mean in each sentence?

Reading Strategy: Classify

Underline the words in the directions that describe when you should check both sentences in this section. Why are there two choices after each number?



Comprehension Check

Circle the item that mentions conserving things. Give an example of a way you can save money.



Comprehension Check

Underline the character trait that is defined in parentheses. Give an example of a situation in which you had empathy for someone.

**Text Structure**

Circle the column that lists qualities in need of improvement. Which of these qualities do you need to improve or develop the most?

**Comprehension Check**

Underline the character trait that is defined in quotation marks. What does "walk as I talk" mean?



- | | |
|--|--|
| 10. <input type="checkbox"/> I have empathy (deep understanding) for others. | <input type="checkbox"/> I need to be more empathetic. |
| 11. <input type="checkbox"/> I have endurance and patience, even in tough times. | <input type="checkbox"/> I need more endurance and patience. |
| 12. <input type="checkbox"/> I'm able to forgive others and myself. | <input type="checkbox"/> I want to learn how to forgive more easily. |
| 13. <input type="checkbox"/> I'm physically, mentally, and emotionally healthy. | <input type="checkbox"/> I want to be more physically, mentally, and emotionally healthy. |
| 14. <input type="checkbox"/> I'm honest and trustworthy. | <input type="checkbox"/> I need to be more honest and trustworthy. |
| 15. <input type="checkbox"/> I'm a risk taker, and I have good imagination skills. | <input type="checkbox"/> I'd like to take positive risks more easily or improve my imagination skills. |
| 16. <input type="checkbox"/> I have integrity. I "walk as I talk." | <input type="checkbox"/> I want to develop my integrity. |
| 17. <input type="checkbox"/> I'm tolerant and fair with others. | <input type="checkbox"/> I need to be more tolerant and fair. |
| 18. <input type="checkbox"/> I'm a good leader. | <input type="checkbox"/> I'd like to be a better leader. |
| 19. <input type="checkbox"/> I'm a good follower. | <input type="checkbox"/> I need to be a better follower. |
| 20. <input type="checkbox"/> I know when to be loyal and/or obedient. | <input type="checkbox"/> I'd like to be more loyal and/or obedient. |
| 21. <input type="checkbox"/> I'm a calm and peaceful person. | <input type="checkbox"/> I need to become more calm and/or peaceful. |
| 22. <input type="checkbox"/> I'm a good problem solver. | <input type="checkbox"/> I want to be a better problem solver. |

endurance, ability to withstand hardship or stress

23. ___ I have direction and purpose in my life.
24. ___ I'm friendly and have healthy, positive relationships with others.
25. ___ I treat others with respect and courtesy.
26. ___ I'm responsible and hard-working.
27. ___ I practice safety measures in my life.
28. ___ I'm self-disciplined.
29. ___ I have wisdom.
- ___ I'd like to have more direction or purpose in my life.
- ___ I'd like to be more friendly and to have better relationships with others.
- ___ I need to be more respectful and courteous.
- ___ I want to develop my sense of responsibility and my work ethic.
- ___ I'd like to be more cautious and safety-conscious.
- ___ I want to be more self-disciplined.
- ___ I want to develop my wisdom.

Interests Inventory

For each “Would you rather...” list, put a 1 by the thing you like to do most, a 2 by your second choice, a 3 by your third choice, and a 4 by your fourth choice.

I. Would you rather . . .

- ___ paint a landscape?
- ___ write in your journal?
- ___ be in a play?
- ___ surf the Internet?
- ___ take care of your neighbor's dog?
- ___ bandage someone's cut?
- ___ make math flash cards for a younger kid?

measures, actions; steps

work ethic, belief in the moral value and importance of hard work

Comprehension Check

Circle a sentence in the left column that relates to your behavior toward other people.



Why is the way you treat other people important?

Comprehension Check

Underline the sentence that mentions safety measures. List three examples of safety measures that you follow each day.



- _____
- _____
- _____

Text Structure

Directions tell you how to answer questionnaires.



Underline the sentences in the Interests Inventory directions that describe how to show your first choice. Why is it helpful to be able to make a decision about what choice is first?

Comprehension Check

Circle the activity in list II that you would most like to do. Explain why this activity appeals to you.

**Reading Strategy:
Classify**

When you classify, you place items that have something in common in a group or category. Underline three activities in the lists that you really dislike doing. Explain what these three activities have in common.

**Comprehension Check**

Circle the item in list III that mentions taking apart a telephone. Which academic subjects do you think a person who likes taking apart telephones might enjoy? Explain your reasoning.



- h. rock a baby?
- i. plant flowers?
- j. repair a light switch?
- k. bake cookies?
- l. organize your friends in a walk-a-thon?
- m. patrol your school halls to stop kids from running?
- n. play catch?
- o. help put a roof on a house?

II. Would you rather . . .

- a. hear a symphony?
- b. tell a story?
- c. demonstrate how to do a new dance?
- d. work on a computer?
- e. go to the zoo?
- f. listen to someone's heartbeat?
- g. give a report on the weather?
- h. teach a younger kid how to play ball?
- i. learn how to raise chickens?
- j. put a new wheel on a bike?
- k. make a cake for a friend?
- l. make bumper stickers and sell them?
- m. help with a neighborhood watch?
- n. go swimming?
- o. build a playhouse for the kids in your neighborhood?

III. Would you rather . . .

- a. decorate a mural?
- b. read a book?
- c. be on the program for a school assembly?
- d. take apart a telephone?
- e. find homes for abandoned animals?
- f. help people find jobs?
- g. give an inspiring speech?
- h. comfort a sick child?
- i. be a **guide** for hikers?

guide, leader

- j. work with hand tools (squares, saws, rules, plumb lines)?
- k. plan a menu?
- l. start a landscaping business with friends?
- m. start a **Youth Crime Watch** at your school?
- n. compete in sports?
- o. paint, plaster, or hang wallpaper?

IV. Would you rather . . .

- a. play a musical instrument?
- b. write a poem or limerick?
- c. make people laugh with your jokes?
- d. put together a kid's toy wagon?
- e. watch a video on the habits of gorillas?
- f. counsel people who are troubled?
- g. research a topic you'd like to learn more about?
- h. play games with children?
- i. landscape a **barren** hill?
- j. follow directions to put a machine together?
- k. learn about how to season foods?
- l. start a recycling program at your school?
- m. patrol a neighborhood to keep it safe?
- n. watch football on TV?
- o. build cupboards?

SCORING: Each response begins with a letter of the alphabet. For each response you marked with a 1, 2, 3, or 4, write its letter here. (Example: 1: a, a, b, c.)

Your scores:

- | | |
|----------|----------|
| 1: _____ | 3: _____ |
| 2: _____ | 4: _____ |

Youth Crime Watch, organized group of young people who work to keep schools and communities safe
barren, unable to grow trees

Comprehension Check

Underline two activities in the Interests Inventory that might involve fixing up a house. What sort of job would a person who enjoys these activities like to do?



Text Structure

Social studies articles often provide information in parentheses. Circle the words in parentheses in the Interests Inventory. What is the purpose of these words?



Reading Strategy: Classify

Underline the items in list IV that involve helping children. Give an example of something else you might do to help kids.



Text Structure

A questionnaire has subheads for each part. Underline the subhead for the questionnaire. What does *inventory* mean in this context?

**Reading Strategy:
Classify**

There are many different kinds of relationships. Classify family relationships in the Relationships Inventory by underlining every item that involves a relative. How are relationships with family members different from relationships with friends?

**Comprehension Check**

Circle every item that mentions relationships with friends. Is it important that friends enjoy your company? Why?

**Relationships Inventory**

For each statement in this inventory, check the box that comes closest to describing how you feel about your relationships.

	<i>Most of the time</i>	<i>Some of the time</i>	<i>Seldom or never</i>
1. Most of my friends seem to like me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. My parent(s) or guardian(s) respect(s) my opinions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. My friends seem to have a good time with me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. My brother(s), sister(s), or parent(s) or guardian(s) seem(s) to enjoy my company.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. My peers admire me or look up to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I enjoy hanging out with my friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I like my teachers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I feel accepted by my parent(s) or guardian(s).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. My family doesn't get on my nerves.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I'm able to talk with my parent(s) or guardian(s).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I don't feel left out of activities with friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I'm satisfied with the friend(s) I have.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. My family and I share responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I'm confident when I am around people my own age.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I can share my opinions with my peers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Most of
the time Some of
the time Seldom
or never

- | | | | |
|---|--------------------------|--------------------------|--------------------------|
| 16. I don't look down on others. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. I like to talk with older people. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. I can talk easily with younger children. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. My parent(s) or guardian(s) seem(s) to understand me. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. I'm on friendly terms with most people I know in my neighborhood and community. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

SCORING: Give yourself 1 point for every check mark in the "Most of the time" column, 2 points for every check mark in the "Some of the time" column, and 3 points for every check mark in the "Seldom or never" column.

Number of "Most of the time" responses:

$$\underline{\quad} \times 1 = \underline{\quad}$$

Number of "Some of the time" responses:

$$\underline{\quad} \times 2 = \underline{\quad}$$

Number of "Seldom or never" responses:

$$\underline{\quad} \times 3 = \underline{\quad}$$

TOTAL

Now turn to page 404 to interpret your scores.

Comprehension Check

Underline two items that have to do with relating to people on this page. What do relationships mean to you?



Comprehension Check

Underline the items that mention talking to people. How important is it to communicate with people? Explain.



Text Structure

Underline what the directions say about how many points you should give yourself for every check mark in the "Seldom or never" column. Why is it important to follow the directions carefully?



Choose one and complete:

1. Create a collage that shows pictures of some of the interests you discovered in the Interests Inventory.
2. Make a "FRIEND WANTED" ad in which you list character traits you look for in a good friend.
3. Make up a song about a relationship in your life. You can use a tune you already know or make up one of your own.



READING WRAP-UP

Retell It!

What have you learned about yourself through these quizzes? Write a description of yourself as if you were writing a letter to a new friend.

Reader's Response

What is more important in your life: your relationships or your interests? Explain why.

Think About the Skill

How did classifying help you better understand the article?





EDIT FOR MEANING

Read

You have read *What Do You Stand For?* Now read one section from it again.

Learning Styles Inventory

1. ___ I like to know *why* things happen. I like to consider many different ideas. I have a good imagination, and I usually come up with good ideas. I like to find solutions to problems and issues. I like practical solutions. I don't like to set schedules; I'm very flexible.
2. ___ I like to think about concepts. I enjoy listening to guest speakers. I love theories about *what* makes things work. I like to work hard and prefer following definite steps to find solutions. I enjoy studying principles and details, and I like columns and figures.



Fix the Error

Each section below contains the same information as the section you just read. However, each section contains one error. First, find the error. Then fix it by editing the sentence so that the information is correct.

1. Find and fix the error.

Learning Styles Inventory

1. I like to understand *why* things happen. I like to consider a number of different ideas. I am very imaginative. Usually, I come up with good ideas. I like to find solutions to problems and issues. I like practical solutions. I work best with a strict schedule because it lets me be flexible.
2. I love taking time to think about concepts. I like listening to guest speakers. I love theories about *what* makes things work. I work hard and like to follow definite steps to find solutions. I like studying principles and details, and I enjoy things like columns and figures.

2. Find and fix the error.

Learning Styles Inventory

1. I like to think about *why* things happen. I like to consider a variety of ideas. I am quite imaginative. I usually come up with some really fine ideas. I find practical solutions to problems and issues. I don't enjoy setting a schedule; I'm extremely flexible.
2. I enjoy thinking about concepts. I dislike listening to guest speakers. I like theories about *what* makes things work. I like to work hard and prefer following definite steps to find solutions. I enjoy studying principles and details, and I like columns and figures.

FOCUS on DETAILS

Mystery Word Puzzle

To complete this mystery word puzzle, you'll need to remember or search for details from the reading. Use the clues to help you unscramble each of the words. Write the words in the boxes. The numbered letters will form the mystery word.

1. A particular way of doing things

LYSET

S	T	Y	L	E
3				

2. A list of personality traits

NYVTONRIE

7								

3. Ideas about how things work

SIROEHET

4								

4. A general idea

NECCTPO

9								

5. Someone who is polite is this

TESUOCUOR

2								

6. To show something

TETERNASDOM

1									

7. To give advice to

SEOCULN

5									

8. Improving a section of ground by adding new plants

CASNPIDNGAL

8										

9. Someone who is legally responsible for a young person

DARNAIGU

6									

What would be a good motto to live by?

1	2

Y				
3	4	5	6	

B				
7	8	9		

READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.
2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.
3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.
4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.
5. Write down any words that slowed you down. Practice saying these words out loud.
6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

3. I like to know *how* things work. I enjoy lectures and abstract ideas. I like to experiment, solve problems, and make decisions. I enjoy technical tasks more than “people problems.” I like to tinker, and I like schedules.
4. I like to talk about “what if” situations. I enjoy real, concrete experiences. I like to apply what I learn. I rely on my gut feelings more than on logic. I love taking risks, and I enjoy helping other people to be creative. I bring action to ideas.

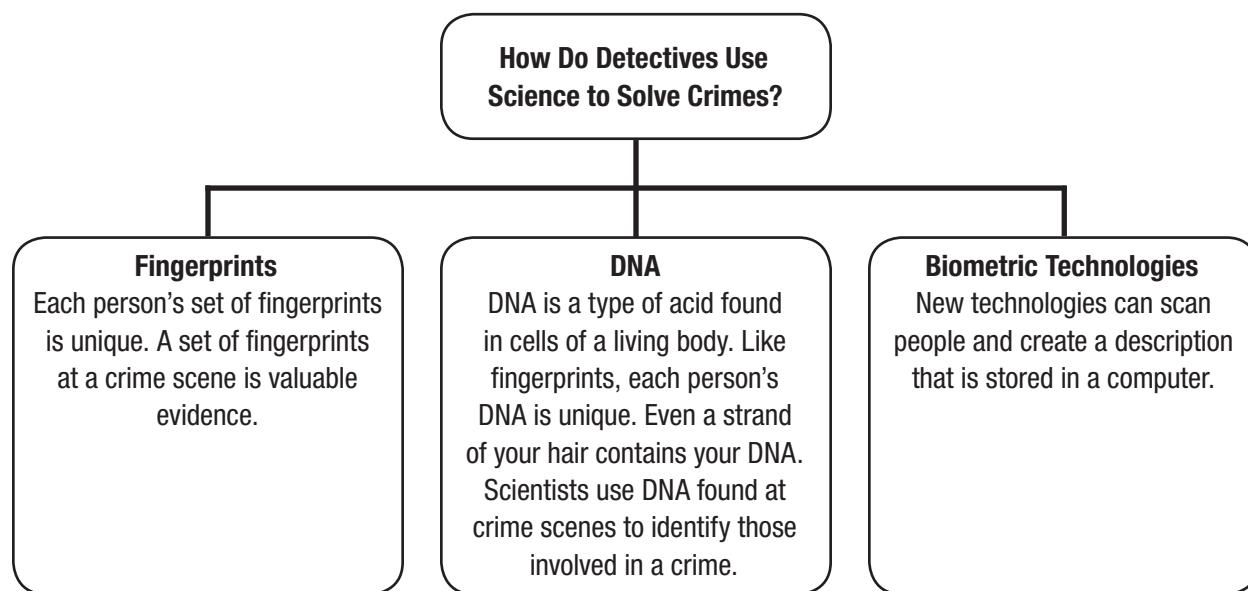
What shapes our identity?

From *Crime Scene: How Investigators Use Science to Track Down the Bad Guys*

SUMMARY

This science article tells how the police use science to identify criminals. Every person's body is different. Each person has a different pattern of lines on the pads of their fingers. The DNA molecules in each person's cells are also different. Police can prove the identity of the criminal by studying the fingerprints and DNA that criminals leave at a crime scene. New technology will make identifying people even easier. Computers will be able to measure features of our bodies such as our eyes, face, and voice. A computer can just scan you and know who you are.

Visual Summary





Use What You Know

List three techniques that detectives might use to solve crimes.

1. _____
2. _____
3. _____

Text Structure

The titles of science articles sometimes contain subtitles.



Underline the subtitle of this article. What does the subtitle tell you that the title doesn't?

Reading Strategy: Connect Ideas

You connect ideas when you link information in different parts of an article.



Circle the word *fingerprint* that appears in both sections on this page. Why are fingerprints used to identify people?

From *Crime Scene: How Investigators Use Science to Track Down the Bad Guys*

by Viven Bowers

Fingerprints

There's no one just like you, or just like anyone else. Look carefully at your fingers. Notice the pattern of lines on the pads of your fingertips that give your fingers extra grip. They also serve as a tool for identifying people. Nobody else has a fingerprint exactly the same as yours, not even your identical twin. And fingerprints don't change from birth to death.

Oops! And Oops Again!

It was a case of mistaken identity that happened not once, but twice, in the years before police started using fingerprint identification.



In 1897 an innocent man, Adolph Beck, was arrested for cheating women of their money. Actually another man, William Thomas, was the **crook**, but Beck looked so much like Thomas that the women **swore** Beck was the one who had tricked them. After five years in jail Beck was released, but he was almost immediately arrested again for more crimes than Thomas had committed. Fortunately, before Beck could go to jail again, a police officer on the case saw Thomas in another jail (he had been arrested for trying to sell stolen goods). Beck was released.

Would you be able to tell one man from the other? Several eyewitnesses couldn't. But before fingerprinting was used to identify criminals, eyewitness **testimony** might have often convicted the wrong person.

crook, dishonest person or criminal
swore, promised truthfully
testimony, formal statement that something is true

Comprehension Check

Underline the names of the innocent man and the criminal in this case. Why was the wrong man arrested?



Reading Strategy: Connect Ideas

You connect ideas when new information about a topic is added to different parts of an article. Circle the type of testimony that sometimes gets the wrong person convicted. Based on what you read on the previous page, why is fingerprinting a good way to identify criminals?



Comprehension Check

Underline the reason why Beck was released the second time he was imprisoned. What does Beck's story tell us about the accuracy of eyewitness identification?





Text Structure

Articles often contain facts and figures. Underline what percent of people have fingerprints with whorls. What is the rarest type of fingerprint?



Comprehension Check

Circle the three types of fingerprint pattern classes. Which type of pattern is the most common?



Text Structure

Articles often provide important details in parentheses. Underline the parentheses in the section "Foiled by Fingerprints." What does the information within these parentheses tell you?



Print Patterns

All fingerprints can be divided into three pattern classes: loops, whorls, and arches.

LOOPS: (60–65 percent of people have this kind) can start from left or right. Two loops (one right and one left) can curl around each other.

WHORLS: (30–35 percent) have a full circle at the center.

ARCHES: (5 percent) have a clear arch shape around the center, with other lines arching around.

Foiled by Fingerprints

In 1963, thirty men jumped a train traveling from Glasgow, Scotland, to London, England. They made off with mailbags containing more than 2,500,000 pounds (that's worth about U.S. \$43 million today). The Great Train Robbery was one of the best-organized robberies ever—almost!

After the robbery, the thieves hid out at a farmhouse where they divided up the money. Someone was supposed to wipe away the fingerprints, but no cleaning up was done. Police found fingerprints all over the place.

Within days, most of the robbers were arrested.

Fingerprinting the Culprit

At the scene of the crime, police investigators search for fingerprints. Fingers get sweaty and oily, so everyone who touches an object leaves behind their very own “stamp”—a pattern of little ridges. Some prints are visible, like a **sooty** or **bloody** handprint left on a wall. Most are latent, which means they are invisible to the human eye.

Lifting Prints

Police use fine powders that stick to faint, oily prints and make them more visible. Dark powders show up on light-colored surfaces; white or gray powder is used for dark surfaces. Police can use chemicals that react with oil and make the prints visible. Or they use **ultraviolet** and laser lights. Under the blue-green light of the laser, prints that were invisible actually glow.

In seconds, police can take a digital photo of a print and send it by photophone to a computerized fingerprint data bank to check for a match.

sooty, black and powdery

ultraviolet, light that is beyond the range people can see

Text Structure

A science article may define words within the text. Circle the word **latent** and underline its definition. What are some examples of prints that are not latent?



Reading Strategy: Connect Ideas

In the first paragraph on this page, underline the reason people leave fingerprint “stamps.” In the second paragraph, underline the ways police make fingerprints visible. What idea connects how fingerprints are left on a surface and how they are detected?



Comprehension Check

Underline the way police make a fingerprint match. Who or what compares the fingerprint with those in the database?





Comprehension Check

Underline how police are able to see fingerprints on a plastic bag. In your own words, describe how this process makes a fingerprint visible.



Reading Strategy: Connect Ideas

Circle the second step to making a fingerprint. Is this type of fingerprint visible or latent?



Comprehension Check

Underline the instructions on this page about how to make fingerprints. Why do you need to cover the tip of your finger in pencil lead?



To see fingerprints on something like a plastic bag, police use a particular kind of glue. In an airtight container with the plastic bag, the glue gives off fumes that cause chemicals to build up on the oily surface of the print. The print is then treated with a special dye to make it visible.

Clue In

Become a fingerprint expert. First make a fingerprint, then lift and dust one. It takes practice to get it right.

1. Rub a pencil on a sheet of white paper. Then rub the tip of your index finger on the pencil mark until it is covered with the pencil lead.
2. Put the sticky side of a piece of clear tape over the finger, and carefully peel the tape off. Stick the tape to a sheet of yellow or white paper. Wash your finger.
3. Examine your fingerprint (a magnifying glass is helpful) and decide what pattern class it is. Do all your fingers have the same print pattern?

Have a member of your family or a friend make a mystery print. It will be more fun if you don't know for sure who made the print. The person making the mystery print should first make his or her fingertips oily by rubbing them with some vegetable oil. Then they should press a finger on a smooth, flat surface (like a shiny tabletop).

1. Choose contrasting powder to dust the print—white talcum powder for a dark surface; black pencil powder (made by rubbing a pencil tip with fine sandpaper) or cocoa powder for a light surface. You won't need much.
2. Brush the powder very lightly over the print using a soft feather or soft paintbrush. Gently! When the print starts to appear, stroke in the direction of the ridges.
3. When the fingerprint is fully developed, press a piece of clear sticky tape on the print. Press down hard on the tape and rub it well with your fingernail.
4. Peel off the tape carefully and stick it onto a piece of paper that contrasts in color with the powder.
5. Take fingerprints from your family and friends (press their fingers on a washable ink pad and then paper, or use the method above). Label each one. Now check the mystery print against the prints you have labeled. Can you identify the mystery print?

Comprehension Check

Underline one way the text suggests to make fingertips oily. List other ways to do this.



Reading Strategy: Connect Ideas

Underline the types of powders suggested for dusting the prints on different surfaces. How is this similar to the process the police use?



Comprehension Check

Circle the second step in the directions. Why do you think it is important to dust the print gently?





Comprehension Check

Underline what the text says DNA stands for. Why do you think fraternal twins (twins who do not look alike) have different DNA?



Text Structure

Science articles can explain how a machine test or scientific procedure might work. Underline the method used to test DNA. In your own words, describe the procedure.



Reading Strategy: Connect Ideas

Underline the people who have identical DNA. Suppose a crime is committed by an identical twin. What technique that you've read about may be best used to figure out which twin did the crime?



DNA—It's in the Genes

What's DNA? It's the greatest breakthrough in forensic science since the discovery of fingerprints. DNA, short for deoxyribonucleic acid, is found in cells of a living body. Each of your DNA molecules contains genetic information that makes you look like you, and not like a turtle or a cat or your brother. Only identical twins have identical DNA.

Autorad-ical Proof

Comparing DNA is a complicated process. Tests are done at different points along a strand or molecule of DNA. The results, one row, or *lane*, with dark bands for each test, are placed side by side and compared in an autoradiogram (autorad for short).

DNA samples from different people give different patterns. If two lanes show the same pattern, the DNA samples probably come from the same person. To make sure, scientists will compare more fragments of the two DNA molecules to see if they, too, create identical autorad patterns.

forensic science, the branch of science involved in solving crimes
molecules, smallest units of a substance
fragments, small pieces

More DNA Evidence

Don't sneeze! You'll leave DNA on this book! Super sleuths today can even get a DNA sample from a smudged fingerprint. One time, the police solved a burglary using DNA evidence found on the doorknob of the house. It came from invisible skin cells that flaked off the burglar's hand when he turned the knob.

DNA Data

A single DNA molecule consists of two spiral strands linked in what is known as a double-helix formation. If you stretched all the DNA from a single cell end to end, it would be more than 6 feet (2 meters) long.

sleuths, people who try to find out information about a crime
spiral, curved



Comprehension Check

Underline what the text says about how a smudged fingerprint can help police identify a criminal. How can DNA help crime fighters?



Text Structure

A science article may include special terms that are defined or explained. Circle the sentence that includes the word *sleuth*. What are some synonyms, or words that have nearly the same meaning as *sleuth*?



Reading Strategy: Connect Ideas

Underline the two subheads on this page. How are the ideas in the two paragraphs connected?





Comprehension Check

Circle the name of the movie in which dinosaurs were created from ancient DNA.



How do you think the dinosaur blood got inside the mosquito in this fictional story?

Text Structure

Articles often contain facts and figures.



Underline the oldest source of DNA that scientists have. Why do you think scientists are excited to have DNA from animals that lived so long ago?

Comprehension Check

Circle the life form that scientists have created from DNA. Why do you think the scientists chose that animal?



All A-Clone

Remember the book and movie *Jurassic Park*?

DNA extracted from dinosaur blood inside a mosquito preserved in amber for millions of years was used to make dinosaurs. It was just a story, right? Well, scientists actually do have DNA from specimens in amber—a 30-million-year-old bee and a 120-million-year-old weevil. And in February 1997, a whole sheep was cloned from the DNA of another sheep. The future is bright for DNA evidence. Imagine if police could take a single hair from a crime scene and use the information in it to work up a physical description of the person it came from!

amber, yellowish-brown substance

weevil, small insect

cloned, copied from a single cell



Generating a “Hit” (Ouch!)

Police have access to two DNA data banks. One contains DNA profiles from criminals convicted of serious crimes. The other contains DNA from crime scenes. Here's how it works. If police are investigating a new crime, they can submit a profile of DNA found at the crime scene. Maybe they'll get a hit—the DNA will match DNA found at a previous crime scene. It looks like the same criminal was involved in both crimes! Or perhaps the DNA will match a previously convicted offender already listed in the data bank, who is now back in the community. Time to pay him or her a visit!

Anytime DNA from a newly convicted criminal is added to the data bank, it may show a match with a “cold case”—a previously unsolved crime. Bingo!

profiles, short descriptions

Comprehension Check

Underline how many data banks police can access. Why do the police need two different data banks?



Reading Strategy: Connect Ideas

Science articles often explain or define key terms. Circle the key term that describes what happens when police match DNA with DNA found at a previous crime scene. List two reasons why matching these DNA samples is important.



Comprehension Check

Underline the definition of *cold case*. Describe how DNA could help to solve a cold case.





Text Structure

Articles often have subheads to introduce a new section of text. Circle the subhead on the top of this page. What do you expect the section will be about?



Comprehension Check

Underline the text that explains how DNA proved that the dealer was selling falcons born in the wild. In your own words, explain how this evidence contradicted the dealer's claim that the birds were the offspring of adult birds he owned.



Comprehension Check

Underline the three types of identification mentioned in the final paragraph. Why do people use these forms of identification?



DNA for the Birds

All living things—including birds—have DNA. Police in Britain used DNA tests to prove that a man was illegally selling wild peregrine falcons. Peregrine falcons are endangered so, to protect their numbers in the wild, only falcons bred in captivity can be legally sold. A dealer claimed that the 20 young birds he had for sale were all the chicks of the three pairs of adult birds he owned. DNA tests proved otherwise. They showed that the birds had come from six sets of parents. The birds must have been captured from the wild. The dealer was sentenced to 18 months in jail.

Authorized Personnel Only!

"Photo identification card, please. What's your password?"

Only authorized people can access private bank accounts, log onto company computers or enter nuclear power facilities. They use secret passwords, photo identification or plastic identity cards that allow them to pass through the security gate. Trouble is, passwords can be forgotten or overheard. Identity cards can be stolen or faked.



One thing that can't be easily stolen or faked is you! There's nobody else exactly the same as you. Today, using biometric technologies, a computer can scan you and transform you into a set of measurements, creating a unique "mathematical description" that can be stored in the computer. So if someone comes along pretending to be you, even if they look a lot like you and are carrying your identification, the computer will know better.

Voice

The distinctive tone and sound pattern of your voice can be captured by a computer.

Eyes

The colored part of the eye, the iris, has a beautiful pattern of colors and shapes that's unique to each person and can be recorded.

Face

A computer scans your face, measuring how the parts fit together such as the distance between the eyes, ears and nose.

Fingerprint

Your fingerprint pattern can be scanned and stored digitally. No more inky prints on paper.

Hand

A 3-D imaging device scans your hand and fingers, creating a digital description of its size and shape.

Comprehension Check

Underline the name of the technologies that can be used to identify people. In your own words, explain how your eye can be a form of identification.



Reading Strategy: Connect Ideas

Circle the text that describes how a computer can scan a person's face. How is this more accurate than identifying another person by just looking?



Comprehension Check

Underline how a person's voice can be used to identify him or her. Do you think that you can fool a computer by imitating another person's voice?



Choose one and complete:

1. Make a poster that tells about DNA.
2. Use the Internet to research scientific techniques that detectives use.
3. Imagine that you are a detective trying to solve a crime. Write a story about the evidence at the scene of the crime and how you analyze it.



READING WRAP-UP

Retell It!

Imagine you are a police officer. Write a report about a robbery, and tell how you used modern crime-fighting techniques to catch the criminal.

Reader's Response

What was the most interesting thing that you learned about how police use DNA?

Think About the Skill

How did connecting ideas help you better understand the article?



EDIT FOR MEANING

Read

You have read *Crime Scene*. Now read one paragraph from it again.

Generating a “Hit” (Ouch!)

Police have access to two DNA data banks. One contains DNA profiles from criminals convicted of serious crimes. The other contains DNA from crime scenes. Here's how it works. If police are investigating a new crime, they can submit a profile of DNA found at the crime scene. Maybe they'll get a hit—the DNA will match DNA found at a previous crime scene. It looks like the same criminal was involved in both crimes! Or perhaps the DNA will match a previously convicted offender already listed in the data bank, who is now back in the community. Time to pay him or her a visit!



Fix the Error

Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so the information is correct.

1. Find and fix the error.

Generating a “Hit” (Ouch!)

The police can use two DNA data banks. One has DNA profiles from convicts who have committed serious crimes. The other data bank isn’t used much because it is empty. Here’s how it works. If police are trying to solve a crime, they can submit DNA found at the crime scene. If they’re lucky, they’ll get a hit—the DNA will match DNA found at a previous crime scene. It looks as if the same criminal was involved in both crimes! Or maybe the DNA will match the record of a known criminal who’s gone free. Time to ask that person some questions!

2. Find and fix the error.

Generating a “Hit” (Ouch!)

Police have access to two separate DNA data banks. One contains DNA profiles from criminals who have been found guilty of serious crimes. The other has DNA from places where crimes were committed. Here’s how it works. Police collect DNA and then file it away in a filing cabinet, never to be seen again. Maybe they’ll get a hit—the DNA will match DNA found at an earlier crime scene. It looks like the same criminal was involved in both crimes! Or perhaps they’ll discover DNA matching that of a convicted criminal who is now free. Then they know to question him or her.

FOCUS on DETAILS

Word Search Puzzle

To complete this word search puzzle, you'll need to remember or search for details from the reading. Look at the clues and circle the answers in the puzzle below. Check off each clue after you've found the answer. Write the word next to its clue.

1. A tool for identifying people fingerprints
2. A kind of light that makes prints glow _____
3. Someone who has seen a crime being committed _____
4. Not guilty _____
5. A place where fingerprints are saved _____
6. Machine to identify DNA _____
7. Information that proves something is true _____
8. A place where something illegal happened _____
9. Unsolved crime _____
10. When someone is found guilty of a crime _____

F	I	N	G	E	R	P	R	I	N	T	S	A	C	E
F	T	O	P	D	I	E	C	L	A	I	U	T	R	V
B	S	K	U	T	A	U	T	O	R	A	D	U	I	I
L	E	Y	E	W	I	T	N	E	S	S	I	Z	M	D
K	V	G	E	D	P	Y	A	R	H	Q	J	D	E	E
L	B	K	A	N	K	X	A	B	O	W	H	O	S	N
A	Q	A	E	I	S	D	V	D	A	Y	I	W	C	C
S	N	D	S	C	I	I	E	L	F	N	W	S	E	E
E	S	K	I	O	P	T	B	S	V	W	K	R	N	L
R	K	Q	G	C	C	C	O	L	D	C	A	S	E	Q
N	V	R	V	I	A	Y	X	J	Y	B	D	V	Q	R
H	A	O	V	Y	I	N	N	O	C	E	N	T	D	R
M	G	N	S	R	E	S	A	L	S	P	R	Z	N	V
M	O	L	Q	B	I	T	P	U	J	U	Y	N	F	O
C	D	V	S	X	T	F	J	Z	T	S	T	O	F	B

READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.
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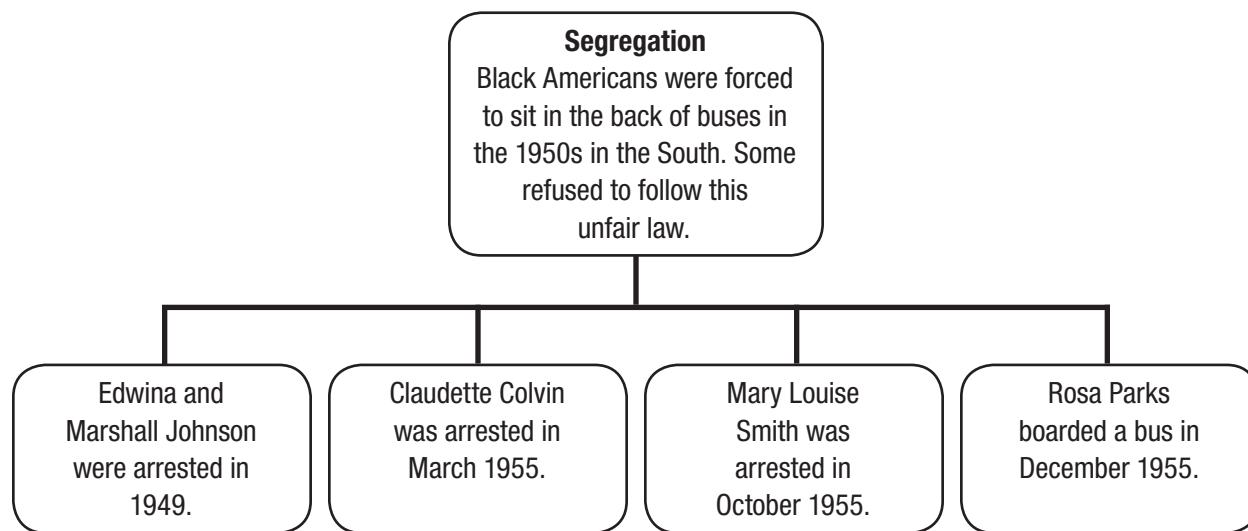
When should you take a stand?

From *Freedom Walkers: The Story of the Montgomery Bus Boycott*

SUMMARY

In the United States in the 1940s and 1950s, African Americans did not have the same rights as white Americans. In some parts of the country, it was illegal for African Americans to ride in the same part of the bus as white passengers. African Americans had to sit in the back and they had to give up their seats to white passengers. A few African Americans refused to accept this unfair law. This excerpt from a history book tells the story of brave teenagers who fought for their rights. The young men and women were arrested and put in jail. However, their actions encouraged others to fight for equal rights for all Americans.

Visual Summary





Use What You Know

Name three things you know about the civil rights movement.

1. _____
2. _____
3. _____

Text Structure

The title of social studies articles can give clues about the topic. Circle the word in the title that indicates that this piece is part of a larger work. What does *freedom* mean to you?



Reading Strategy: Recognize Sequence

A sequence is a series of events that lead up to an important event. Circle the city that the two New Jersey teens visited in 1949. List the sequence of events leading up to the conviction of Edwina and Marshall Johnson.



1. _____
2. _____
3. _____

From *Freedom Walkers: The Story of the Montgomery Bus Boycott* by Russell Freedman

“It’s my constitutional right!”—Claudette Colvin

Two youngsters from New Jersey—sixteen-year-old Edwina Johnson and her brother Marshall, who was fifteen—arrived in Montgomery to visit relatives during the summer of 1949. No one told them about the city’s segregation laws for buses, and one day they boarded a bus and sat down by a white man and boy.

The white boy told Marshall to get up from the seat beside him. Marshall refused. Then the bus driver ordered the black teenagers to move, but they continued to sit where they were. Up North, they were accustomed to riding integrated buses and trains. They didn’t see now why they should give up their seats.

The driver called the police, and Edwina and Marshall were arrested. Held in jail for two days, they were convicted at a court hearing of violating the city’s segregation laws. Judge Wiley C. Hill threatened to send them to reform school until they were twenty-one, but relatives managed to get them an attorney. They were fined and sent back to New Jersey.

reform school, a special school for young people who have broken the law

During the next few years, other black riders were arrested and convicted for the same offense—sitting in seats reserved for whites. They paid their fines quietly and continued to ride the public buses. It took a **spunky** fifteen-year-old high school student to bring matters to a head.

Claudette Colvin was an A student at all-black Booker T. Washington High. She must have been paying attention in her **civics** classes, for she insisted on applying the lessons she had learned after boarding a city bus on March 2, 1955.

Claudette was on her way home from school that day. She found a seat in the middle of the bus, behind the section reserved for whites. As more riders got on, the bus filled up until there were no empty seats left. The aisle was jammed with passengers standing, mostly blacks and a few whites.

The driver stopped the bus and ordered black passengers seated behind the white section to get up and move farther back, making more seats available for whites. Reluctantly, black riders gave up their seats and moved into the crowded aisle as whites took over the vacated seats.

spunky, full of energy and determination
civics, a school subject dealing with the rights and duties of citizens and the way government works

Comprehension Check

Underline what the text says most African Americans did after being convicted for sitting in seats reserved for whites. Why do you think they made that choice?



Comprehension Check

Circle the important social studies class mentioned in this section. How could studying this subject change the way a person acts?



Reading Strategy: Recognize Sequence

Underline the sentence that tells what the bus driver ordered black passengers to do. What happened next?





Comprehension Check

Underline the reason why Claudette felt she should not have to get out of her seat. What would you have done?



Reading Strategy: Recognize Sequence

Underline what the driver said after he refused to move the bus. List the sequence of events that happened after that.



1. _____
2. _____
3. _____

Comprehension Check

Underline what the text says about why the white women standing would not sit next to Claudette Colvin. What is another possible reason?



Claudette didn't move. She knew she wasn't sitting in the restricted white section. She felt that she was far enough back to be entitled to her seat. A pregnant black woman was sitting next to her. When the driver insisted that the woman get up and stand in the aisle, a black man in the rear offered her his seat, then quickly left the bus to avoid trouble.

Claudette was now occupying a double seat alone. "Hey, get up!" the bus driver ordered. Still she refused to move. None of the white women standing would sit in the empty seat next to Claudette. It was against the law for blacks to sit in the same row as a white person.

The driver refused to move the bus. "This can't go on," he said. "I'm going to call the cops." He did, and when the police arrived, he demanded that Claudette be arrested.

"Aren't you going to get up?" one of the police officers asked.

"No," Claudette replied. "I don't have to get up. I paid my fare, so I don't have to get up." At school, Claudette had been studying the U.S. Constitution and the Bill of Rights, and she had taken those lessons to heart. "It's my constitutional right to sit here just as much as that [white] lady," she told the police. "It's my constitutional right!"

Blacks had been arrested before for talking back to white officials. Now it was Claudette's turn. She was crying and madder than ever when the police told her she was under arrest. "You have no right to do this," she protested. She struggled as they knocked her books aside, grabbed her wrists, and dragged her off the bus, and she screamed when they put on the handcuffs.

"I didn't know what was happening," she said later. "I was just angry. Like a teenager might be, I was just downright angry. It felt like I was helpless." She remained locked up at the city jail until she was bailed out later that day by the pastor of her church.

Bill of Rights, a written statement of the most important rights of the citizens of the United States

Comprehension Check

Underline a reason why more African Americans didn't protest against having to stand up when white people wanted a seat. Why did Claudette make a different choice?



Text Structure

Social studies articles can refer to important documents that form the foundation of our political system. Underline the name of the documents that persuaded Claudette to resist getting up. Why might these documents have inspired her to stay in her seat?



Comprehension Check

Underline what the text says about how Claudette reacted to being arrested. How do you think you would react in that situation?





Comprehension Check

Circle the word that shows how the arresting officer reacted to Claudette Colvin's words. What is strange about his reaction?



Reading Strategy: Recognize Sequence

Underline the crimes with which Claudette Colvin was charged. Then list the sequence of events after Claudette was arrested.



1. _____
2. _____
3. _____

Comprehension Check

Circle the words that show Claudette's reaction to the verdict. Why might she have reacted this way?



Under Montgomery's segregation laws, Claudette was in fact entitled to her seat behind the whites-only section. If no seats were available for blacks to move back to as additional white passengers boarded the bus, then they were not required to give up their seats. That was the official policy. But in actual practice, whenever a white person needed a seat, the driver would order blacks to get up and move to the back of the bus, even when they had to stand in the aisle.

Prosecutors threw the book at Claudette. She was charged not only with violating the segregation laws, but also with assault and battery for resisting arrest. "She insisted she was colored and just as good as white," the surprised arresting officer told the judge at the court hearing.

After a brief trial in juvenile court, Claudette was found guilty of assault. She was fined and placed on probation in her parents' custody. She had expected to be cleared, and when the judge announced his verdict, she broke into agonized sobs that shook everyone in the crowded courtroom.

threw the book at, punished someone as severely as possible
assault and battery, the threat to use force on another and
the carrying out of the threat
probation, system that allows criminals to leave prison early
or not go to prison at all based on good behavior
custody, the act or right of guarding
agonized, suddenly or intensely emotional

"The verdict was a bombshell!" Jo Ann Robinson recalled. "Blacks were as near a breaking point as they had ever been."

In October 1955, several months after Claudette was convicted, Mary Louise Smith, an eighteen-year-old black girl, was arrested when she refused to move to the back of the bus so a white woman could take her seat. "[The driver] asked me to move three times," Smith recalled. "And I refused. I told him, 'I am not going to move out of my seat. I am not going to move anywhere. I got the privilege to sit here like anybody else does.'"

Smith's case did not create the furor that the Colvin case did, because Smith chose to plead guilty. She was fined five dollars.

Two months later, on December 1, 1955, another black woman boarded a city bus and found an empty seat just behind the white section. She was Rosa Parks.

bombshell, a shocking piece of news
furor, a sudden expression of anger or excitement

Choose one and complete:

1. Make a poster that advertises a protest against the bus companies for forcing African Americans to move to the back of buses.
2. Using the Internet or other sources, find out more about the civil rights movement. Make a timeline showing some of the major events of this movement.
3. Read the Bill of Rights. Write a paragraph about one right you consider important and explain why.

Comprehension Check

Underline what Jo Ann Robinson said about the verdict. What do you think she meant by that statement?



Text Structure

Many social studies articles contain dialogue. Underline the reason why Mary Louise Smith refused to give up her seat. Why is quoted dialogue important?



**Reading Strategy:
Recognize Sequence**

Write the sequence of events that happened in October, 1955.

1. _____
2. _____
3. _____



READING WRAP-UP

Retell It!

Suppose you had been a passenger on a bus in Montgomery, Alabama, in the 1950s. If you saw an African-American passenger being arrested for not giving up his or her seat, what would you want to say? Write a letter to the editor of your local newspaper that gives your opinion.

Reader's Response

What is one injustice that still takes place today? What are some things you can do about it?

Think About the Skill

How did recognizing sequence help you better understand the article?



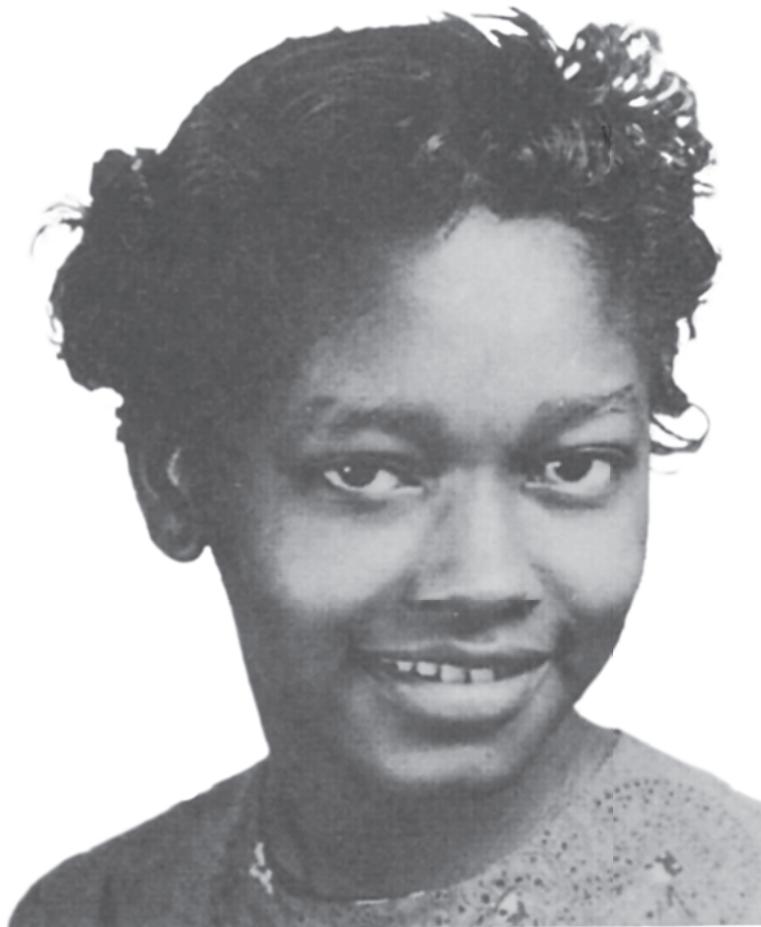
EDIT FOR MEANING

Read

You have read an excerpt from *Freedom Walkers*. Now read one paragraph from it again.

Freedom Walkers

Under Montgomery's segregation laws, Claudette was in fact entitled to her seat behind the whites-only section. If no seats were available for blacks to move back to as additional white passengers boarded the bus, then they were not required to give up their seats. That was the official policy. But in actual practice, whenever a white person needed a seat, the driver would order blacks to get up and move to the back of the bus, even when they had to stand in the aisle.



Fix the Error

Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so that the information is correct.

1. Find and fix the error.

Freedom Walkers

Under Montgomery's segregation laws, Claudette was entitled to a seat in the whites-only section. If seats weren't available to move back to as extra white passengers got on the bus, they didn't have to give up their seats. That was the real policy. But what really happened was, whenever anyone white needed a seat, the driver would make blacks move to the back of the bus, even if it meant they had to stand in the aisle.

2. Find and fix the error.

Freedom Walkers

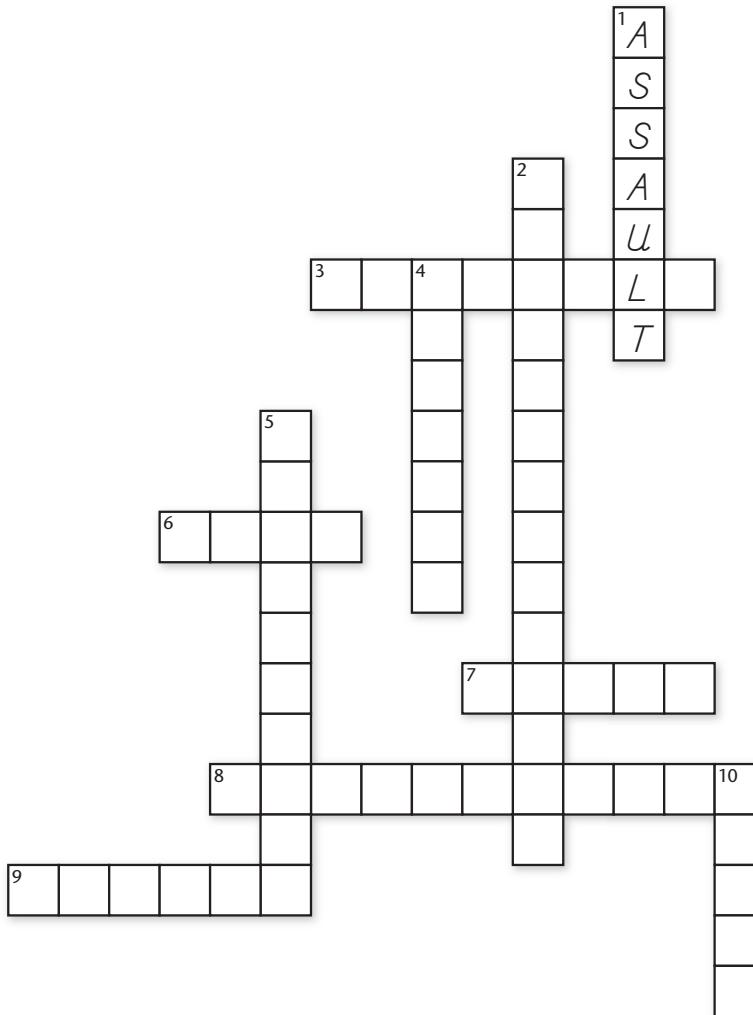
Under Montgomery's laws about segregation, Claudette had the right to keep her seat in the section that was for blacks only. If no seats were available for blacks in the back of the bus as more white passengers boarded, African Americans did not have to give up their seats. In practice, however, the driver would order blacks to move to the back and find a seat in the blacks-only section.

FOCUS on DETAILS

Crossword Puzzle

To complete this crossword puzzle, you'll need to remember or search for details from the reading. Use the words in the word box to help you. Not all of the words in the word box are in the puzzle. Fill in the crossword with answers to the clues below.

CRIMINAL
NORTH
BAIL
FINE
ASSAULT
SOUTH
JUVENILE
VERDICT
MONTGOMERY
SEGREGATION
CONSTITUTIONAL
SPUNKY



Across

3. A kind of court where young people are tried
6. A penalty of money for breaking the law
7. The part of the United States where trains and buses were segregated
8. Edwina and Marshall broke this kind of law
9. Full of energy

Down

1. Claudette Colvin was found guilty of this charge.
2. Claudette Colvin believed she had this kind of right to keep her seat.
4. A judge's decision
5. The place where Edwina and Marshall Johnson got arrested
10. The part of the United States where trains and buses were integrated.

READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.
2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.
3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.
4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.
5. Write down any words that slowed you down. Practice saying these words out loud.
6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

Freedom Walkers

The driver refused to move the bus. “This can’t go on,” he said. “I’m going to call the cops.” He did, and when the police arrived, he demanded that Claudette be arrested.

“Aren’t you going to get up?” one of the police officers asked. “No,” Claudette replied. “I don’t have to get up. I paid my fare, so I don’t have to get up.” At school, Claudette had been studying the U.S. Constitution and the Bill of Rights, and she had taken those lessons to heart. “It’s my constitutional right to sit here just as much as that [white] lady,” she told the police. “It’s my constitutional right!”

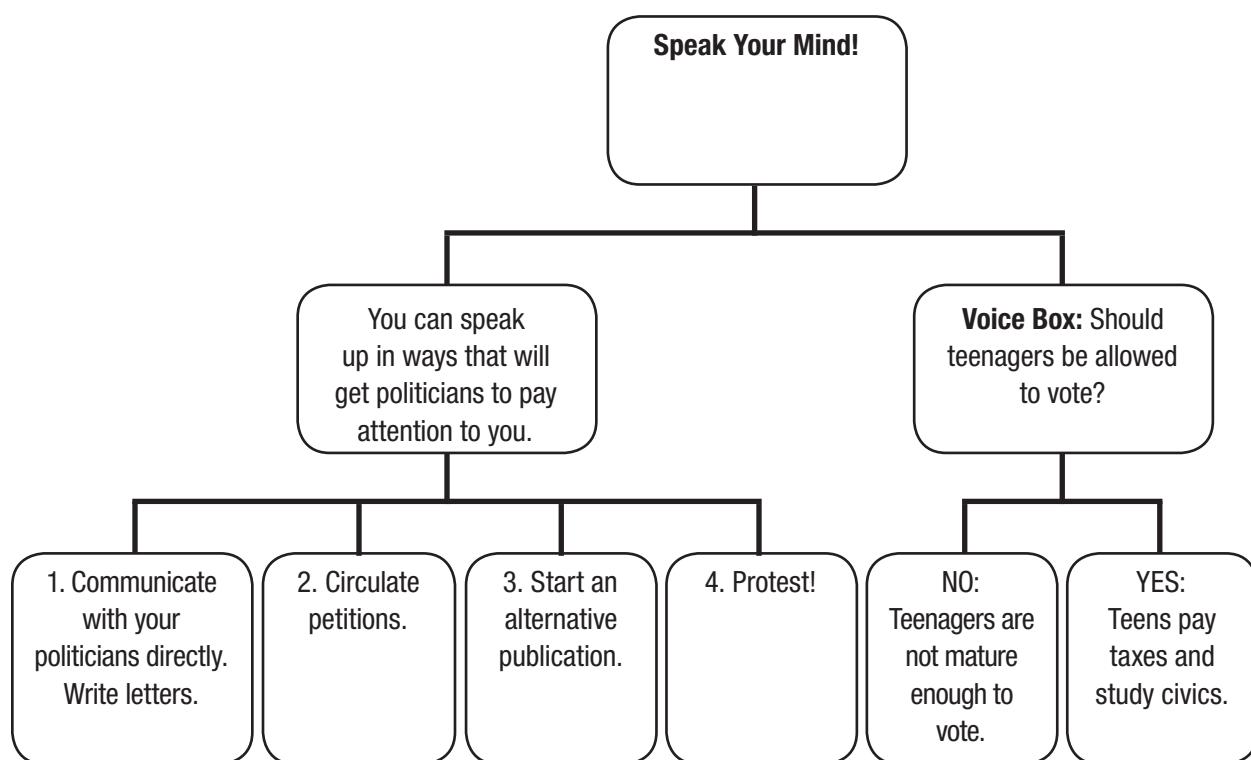
When should you take a stand?

“Speak Your Mind!”

SUMMARY

In this magazine article, teenage writers talk about having a voice in government. Charlotte Steinecke suggests ways teens can express their opinions about important issues. She explains how to write a letter to a politician and circulate a petition. She also tells how to start a newspaper and protest in a picket line. Emily Cutler asks if we should lower the voting age to allow teens to vote.

Visual Summary



Use What You Know

Write one problem in the world that you'd like to solve.

Text Structure

Underline the name of the author of this article. What do you learn about the author on this page?

**Reading Strategy:
Evaluate New Information**

It is important to evaluate new information you read to see if you agree or disagree with it. Underline what the article states is the job of politicians. Evaluate this statement. Explain whether you knew this fact, or not.



Speak Your Mind!

How to Get a Voice in Government and Make Yourself Heard!

Charlotte Steinecke

A politician's job is to represent the people—that's you and me!—so what do you do when a politician is on the other side of an issue you feel strongly about? Don't worry, there are several ways to speak up—some you can do on your own and some take the effort of many people working together.

1. Communicate with your politician directly. Many websites feature senators' contact information—a good place to look is www.congress.org, a site containing a directory of every member of Congress. If you're going to write to or e-mail your politicians, remember to be polite, explain your views, and thank them for their time. Rudeness or "you're wrong" statements won't convince your congressperson. Politicians are more likely to notice you if you prove to be a respectful and intelligent individual who has a clear view of the world around you! They're also more likely to notice you if you write a personal letter instead of using a form letter.

contact information, ways to reach someone: phone, e-mail, address, etc.

form letter, standard letter sent to many people and not personalized

Form letters are still OK, though, especially if you're not sure how to start. Many websites have draft letters that you can send as is, add to, or change. You can find websites by typing your topic into a search engine and seeing what comes up!

- 2. Petitions are a good way to circulate ideas in your school and community.** People often use petitions to raise public awareness. Although they don't always result in immediate action, they get people thinking about an issue, which can bring about change.
- 3. If you want to get your message out in print, start an alternative newspaper or magazine with like-minded friends.** You don't need a publisher for this—just a computer, copy machine, and people to give it to. Be sure to back up opinions with facts. Pay attention to the layout—pictures can help catch readers' eyes. Choose a name for your paper, plan out publication dates, and create article lists. Don't fret about size: one front-and-back page makes a great weekly paper. If you don't want to create a print newspaper, you can write about your opinions on a blog or personal website and hand out the web address to friends and family.

search engine, a computer program to find information on the Internet

layout, the way in which writing and pictures are arranged on a page

web address, the URL (Uniform Resource Locator) of a page on the Internet

Comprehension Check

Underline how you can find form letters to send to your congressperson. Why might you want to send him or her a form letter?



Comprehension Check

Social studies articles often provide information about how to take action on important issues. Underline how petitions are effective. What issues might you see on a petition?



Reading Strategy: Evaluate New Information

Circle what the text says about what you need to start a newspaper. What new information does this section provide?





Reading Strategy: Evaluate New Information

Underline the part of the text that says that protesting can be more effective than one person speaking out alone. Do you agree? Why or why not?



Text Structure

Social studies texts often include special words that are defined in the text. Underline the form of protesting described in the second paragraph. Why can this form of protesting be effective?



Comprehension Check

Underline the form of protest in the last paragraph on this page. Why might this form of protest be effective?



4. Protest! The written word can be very powerful, but a group of people protesting together in a public space can communicate in a way that one person cannot. Sometimes, when politicians won't listen to one person, they'll listen to a lot of people talking about the same thing. If you feel ambitious, organize your own protest. Hand out fliers and get your friends and family involved. You can march in your local park or hold a letter-writing party where everyone composes a letter to your senator or representative.

Picketing is a specific kind of protesting that happens when people form a line, usually in front of a building so that people can't get past without noticing them. Picketers carry signs, hand out literature, and protest the actions of an organization. You can get creative with picketing—create signs with slogans that support your view and make up chants to recite on the picket line. Getting involved with a picket line really makes people take notice.

You can also use silence to protest, and sometimes it's more effective than yelling.

fliers, sheets of paper advertising something
slogans, easy-to-remember short phrases used by politicians
and advertising companies

Voice Box

Welcome to Voice Box, where we discuss hot topics. This time, we're talking about lowering the voting age.

Emily Cutler

Not long ago, several groups in the U.S. fought for the right to vote. Women couldn't vote until 1920. Native Americans couldn't vote until 1924, and then only in some states. And until Congress passed the Voting Rights Act in 1965, many African Americans couldn't vote because they couldn't pass the required literacy tests (which were often **rigged**) or pay **poll taxes**. During the Vietnam War, 18-year-olds claimed they were old enough to vote if they were old enough to fight. Congress agreed, and in 1971, they changed the legal voting age from 21 to 18.

rigged, arranged or influenced in a dishonest way to get a certain result

poll taxes, taxes required for voting

Comprehension Check

Circle the year when women were first allowed to vote. Why is voting an important right?



Comprehension Check

Underline the reason the text gives for why many African Americans did not vote until the 1960s. Why do you think that was done?



Reading Strategy: Evaluate New Information

Underline the reason Vietnam-era 18-year-olds gave for claiming they should have the right to vote. Evaluate that reason and explain why you agree or disagree.





Comprehension Check

Underline why some people think the voting age should be lowered today. Why could lowering the age help to solve that problem?



Reading Strategy: Evaluate New Information

Underline what the text says about how much of a vote California 14-year-olds would get if a California senator's law passed. Do you think this would work? Why or why not?



Comprehension Check

Underline the states that are considering lowering the voting age. Why do you think more states haven't considered this option?



Some people think the voting age should be lowered again. They argue that letting young people vote will decrease voter apathy.

California Senator John Vasconcellos recently proposed an amendment that would give 16-year-olds a half vote and 14-year-olds a quarter vote in California elections. Iowa, Washington, Maine, Texas, and Minnesota also have considered lowering the voting age.

amendment, a change, especially in the words of a law



Opponents of the change say 16-year-olds aren't mature enough to vote. They point out that teenagers' judgment hasn't fully developed yet and they might be too easily persuaded by political candidates, parents, and teachers. But those in favor of lowering the voting age say that because teenagers study current events, politics, and government in school, they know just as much as most adults.

Some people also say that since teenagers often hold jobs and pay taxes, they should be allowed to vote.

What Do You Think?

1. At what age should people be allowed to vote? Why?
2. Should kids' votes count as full votes or partial votes?
3. Would you vote in national elections if you could? Why or why not?
4. Do you think politicians would treat young people differently if teenagers could vote?

Choose one and complete:

1. Create a poster about an issue that you have been thinking about. Explain why it is important.
2. Learn more about an issue by doing research using the Internet, books, magazines, or newspapers. Make a two-column list and list what you'd like to change in one column. In the other, list how you'd like to make the changes.
3. Write a protest song about an issue that is important to you.

Text Structure

Social studies articles often present opposing opinions. Underline the words that show that there are two sides to this issue. Do you agree with this opinion? Explain.



Comprehension Check

Underline what teenagers study in school that can help them become thoughtful and informed voters. How could those studies help?



Reading Strategy: Evaluate New Information

Underline an additional reason that makes some people think that teens should have the right to vote. Is this a good reason to let 16-year-olds vote? Why or why not?





READING WRAP-UP

Retell It!

Suppose a friend is interested in a political issue. Suggest some ways he or she can work for change.

Reader's Response

Did this article inspire you to speak up? How could taking action on an issue you care about make you feel more powerful?

Think About the Skill

How did evaluating new information help you better understand the article?



EDIT FOR MEANING

Read

You have read “Speak Your Mind!” Now read one paragraph from it again.

How to Get a Voice in Government and Make Yourself Heard!

Picketing is a specific kind of protesting that happens when people form a line, usually in front of a building so that people can't get past without noticing them. Picketers carry signs, hand out literature, and protest the actions of an organization. You can get creative with picketing—create signs with slogans that support your view and make up chants to recite on the picket line. Getting involved with a picket line really makes people take notice.



Fix the Error

Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so that the information is correct.

1. Find and fix the error.

How to Get a Voice in Government and Make Yourself Heard!

Picketing is a special kind of protesting. It happens when people line up, usually in front of a building. That way, the people inside aren't bothered by the picketers. Picketers hold signs, hand out literature, and protest against what an organization does. If you want, you can create slogans and make up chants to say on the line. Picket lines make people pay attention.

2. Find and fix the error.

How to Get a Voice in Government and Make Yourself Heard!

Picketing is a very special kind of protesting. What it involves is having people line up, most often in front of a building. Then, people can't get past without noticing the protesters. Picketers hold signs and hand out little prizes to encourage others to join the protests against what an organization does. You can do unusual things with picketing like creating signs with slogans and making up chants you can say that support your view. Getting involved with a picket line makes people really take notice.

FOCUS on DETAILS

Word Search Puzzle

To complete this word search puzzle, you'll need to remember or search for details from the reading. Look at the clues and circle the answers in the puzzle below. Check off each clue after you've found the answer. Write the word next to its clue.

1. To act on behalf of someone else _____ *represent*
2. This won't convince politicians _____
3. You can recite these on a picket line _____
4. If yelling doesn't work, this is another tool for protesting _____
5. A connected group of pages on the Internet _____
6. One kind of congressperson _____
7. To create a letter _____
8. A kind of protesting by people outside a building _____
9. A document that many people sign to ask for something _____
10. Letting young people vote might decrease _____



READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.
2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.
3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.
4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.
5. Write down any words that slowed you down. Practice saying these words out loud.
6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

How to Get a Voice in Government and Make Yourself Heard!

The written word can be very powerful, but a group of people protesting together in a public space can communicate in a way that one person cannot. Sometimes, when politicians won't listen to one person, they'll listen to a lot of people talking about the same thing. If you feel ambitious, organize your own protest. Hand out fliers and get your friends and family involved. You can march in your local park or hold a letter-writing party where everyone composes a letter to your senator or representative.

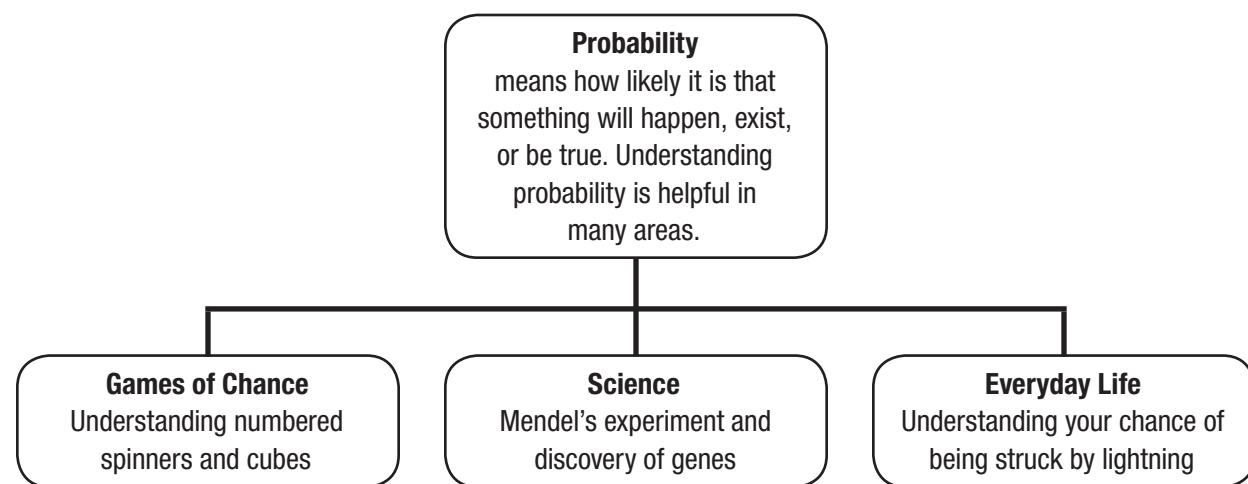
What does it take to beat the odds?

"Take a Chance!" and "A Survival Mini-Manual"

SUMMARY

The informational article "Take a Chance!" explains a type of math called probability. Probability predicts how likely it is that something will happen, exist, or be true. The article shows how understanding probability can help you in games, science, and everyday life. The science article "A Survival Mini-Manual" explains how to survive dangerous situations. For example, it tells what to do if you are bitten by a snake or stuck in a lightning storm.

Visual Summary





Use What You Know

List three reasons it would be helpful to know that a disaster was likely to occur.

1. _____
2. _____
3. _____

Text Structure

Informational texts often define or explain key terms. Underline the sentence that contains a highlighted vocabulary word. In your own words, rewrite this sentence without using the vocabulary word.



Reading Strategy: Skim

Skimming requires you to read quickly to find the main ideas. Underline a branch of math in the second paragraph. List three ways probability is expressed in numbers.



1. _____
2. _____
3. _____

Take a Chance! by Johnny Ball

What's the chance of being struck by lightning or hit by a meteorite when you go for a walk? If you fly in a plane, what's the chance of crashing or seeing a flying pig through the window? To answer these questions precisely, you need a branch of math called probability.

What Is Probability?

Probability is expressed by a number from zero to one. A probability of zero means something definitely won't happen, whereas a probability of one means it definitely will. Anything in between means something may happen. For instance, the chance of a coin landing heads up is a half, or 0.5.

branch, one part of a large subject of study or knowledge



The Laws of Luck

Here's a handy tip. In math questions about probability, look for the words "or" and "and." When you see the word "or," chances are you'll need to **add up** probabilities to get your answer. So the chance of rolling a one *or* a two with a cube (from one to six) would be $1/6 + 1/6 = 1/3$. When you see "and," you'll probably have to **multiply**. For instance, the chance of getting a six *and* another six on two cube rolls is $1/6 \times 1/6 = 1/36$.



Comprehension Check

Underline the sentence that tells you what you'll probably have to do if you see *or* in a question about probability. If you see the word *and* in a probability question, what will you most likely have to do?



Text Structure

Circle the bold words. Why do you think these words are bold?



Text Structure

Informational texts often provide examples to make an idea easier to understand. Underline two mathematical examples in the paragraph. How do these examples help you to understand probability?





Text Structure

The subheads in informational texts often intend to capture a reader's interest.

Circle the subhead. Write a question about what you hope to learn from this section.



Comprehension Check

Underline the sentence that explains what Mendel did in his first experiment. Why do you think he knew that the flowers of the offspring must have "white" in them?



Comprehension Check

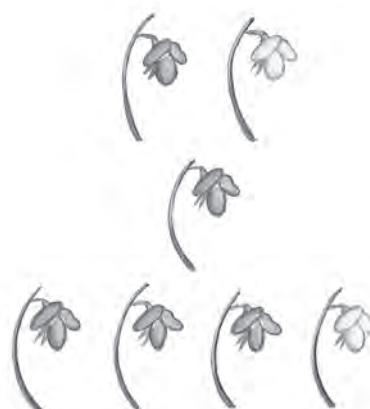
Underline the sentence that tells how many possibilities there were in Mendel's second experiment. Why was Mendel's experiment important?



Mendel's Numbers

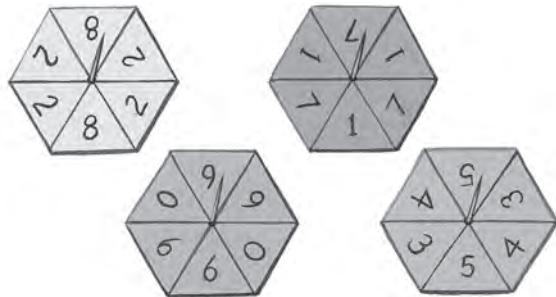
In the 1850s, Austrian monk Gregor Mendel made an amazing discovery thanks to probability. Mendel bred purple-flowered peas with white-flowered peas and found that all the offspring were purple. He decided these must have "white" in them, but it just wasn't showing. So he bred the offspring with each other. Now there were four possibilities. The new parents could pass on one purple each, a purple and a white, a white and a purple, or two whites. If purple was present, it would show over white, and so on average, only a quarter of the plants would be white. They were. Mendel had discovered genes.

offspring, the descendants of a person, animal, or plant
genes, parts of cells in living things that control how they
develop



Sneaky Spinners

Here's a game of chance you'll keep winning at. Make four spinners like the ones here by cutting out cardboard hexagons and writing numbers on them. Push a toothpick through the center of each. Then challenge a friend to a spinner match. Point out that they can choose any spinner they want, and the numbers on each one add up to 24, so the game must be fair. Look at the highest number on their spinner, then make sure you pick the spinner with the next number up (but if your friend takes the one with an 8 on it, you take the one with the 5 on it). You'll have a two-thirds chance of winning each match!



Risky Business

The table shows a person's chance of dying from various causes, based on death rates in Europe and North America.

Cause of Death	Chance of Dying in a Year
Road accident	1 in 4,000
Flu	1 in 5,000
Falling	1 in 16,000
Playing soccer	1 in 25,000
Struck by lightning	1 in 10 million
Hit by meteorite (estimate)	1 in a trillion

Reading Strategy: Skim

Skim the first paragraph. Underline the sentence that refers to the drawing. Write the three steps involved in making spinners.



1. _____
2. _____
3. _____

Comprehension Check

Underline the sentence that explains why the game of spinners is fair. Explain why the game is fair.



Text Structure

An informational text often uses an illustration to explain something in the text. Circle the illustration on this page. What important information does this illustration provide?





Text Structure

A subhead tells you what a section of an article will be about. Underline the subhead on this page. What do you expect to learn from reading this section?



Comprehension Check

Underline the sentence that explains why it is important to remain calm if you are bitten by a snake. Why should you not attempt to suck out the venom from the snake bite?



Text Structure

Informational texts often provide steps for how to do something. Underline the last step in the second paragraph. Why is it important to seek medical attention for a snakebite?



A Survival Mini-Manual

from *Time for Kids Almanac*

You never know when disaster will strike. If it does, it's important to be prepared. Your life—or the lives of others—may depend on knowing how to get out of a jam. Here are some tricks that experts say will increase a person's chances of surviving a sticky situation.

You are bitten by a snake

Even if you saw it done in a movie, don't try to suck the venom and spit it out. This will make you absorb even more venom. Remain calm. Most snake bites aren't fatal, and panic will only make your heart beat faster, speeding the spread of the venom through your body. Clean the wound the way you would treat any other type of cut. Then tie a band between the wound and your heart to keep the venom from spreading too quickly. Don't make the band as tight as a tourniquet. Seek medical attention right away.



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You are in water with sharks

Try to keep still, to keep the shark from noticing you. If you think it's attacking, hit it in the eyes or gills with your fists or any hard object. (Punch the nose only if you can't reach the eyes or gills.) Sharks aren't interested in going after prey that fights back, so it will probably swim away. To avoid this frightening encounter, don't swim alone far from the ocean's shore or during the twilight or evening. Stay out of water if you have an open wound, because the blood will attract sharks.

You are attacked by a bear

Don't turn your back on the bear and run away. The bear will think you are prey and chase you. There's no way you can outrun a bear. Nor can you outclimb one. Bears will chase you up a tree, where there's no escape. Your best option is to lie down and play dead. With any luck, the bear will lose interest and leave.

Text Structure

Informational texts have subheadings that help you focus on important topics. Circle the subheadings on this page. What topics do the paragraphs on this page cover?



1. _____
2. _____

Reading Strategy: Skim

Skim the first paragraph. Underline the sentence that describes behavior that discourages sharks from attacking. Why is this information surprising?



Comprehension Check

Underline the sentences in the second paragraph that explain why you should not run away from a bear. Why do you think the article begins by telling what *not* to do?





Reading Strategy: Skim

Skim the first paragraph. Then underline the sentence that tells you why you should close your mouth if you are caught in an avalanche. How will this help you stay alive?



Text Structure

Informational texts often provide steps for how to do something. Circle all the steps to escape from quicksand. Do you think it would be easy to stay calm and follow these directions while in quicksand?



Comprehension Check

Underline the most important thing to remember if you are stuck in quicksand. What will happen if you don't follow this advice?



You are caught in an avalanche

Get out of its way by running from its path. Close your mouth to keep it free of snow. When the snow hits, try to stay on its surface. Do this by moving your arms as if you're swimming. If this doesn't work, try to grab a tree or some other stationary object as you move by. If you get buried, create an air pocket around your nose or mouth by cupping your hands. It will allow you to breathe until you are rescued.

You are stuck in quicksand

Just remember: don't struggle wildly. Thrashing around will make you sink faster. Quicksand is sand saturated with underground water. Like regular water, you can float on its surface. Try shifting your body until you're lying on your back. Now you can float on the quicksand as if you were in a swimming pool. Maneuver yourself to the edge of the quicksand and escape.

You are in a lightning storm

It's not what you do—it's what you shouldn't do. Don't stay in high places or on open ground. Don't stand under a tree or a flagpole or in a picnic area, baseball dugout or bleachers. Don't go near metal fences or any body of water. It's better to stand inside a large building than a small one. Once inside, don't touch anything leading to the outside that conducts electricity, such as metal window frames, showers or pipes. Don't use a telephone, computer or TV. If you're inside a car, roll up the windows and try not to touch anything that can conduct electricity.



Reading Strategy: Skim

Skim the paragraph. Then circle the word you see repeated most often. What do you think the paragraph is about?



Text Structure

The first sentence in an informational paragraph usually introduces the topic of the paragraph. Underline the first sentence of the paragraph. Based on the first sentence, what do you expect to learn?



Comprehension Check

Underline what the text says about what sort of building you should stand inside during a lightning storm. Why do you suppose a large building might be safer than a small one?





Comprehension Check

Underline the sentence that tells why you want water to fill the car.
Why can't you open the car door if the car is not filled with water?



Text Structure

Informational texts are structured so that a reader can easily follow steps or directions. Sequence words like *first*, *now*, and *next* are often used. Circle the sequence words in the paragraph. What sequence word could be used for the last sentence of the paragraph?



Comprehension Check

An informational text often explains steps to follow in a process. Underline the sentence that tells when the water pressure should be equalized. List the three things you should do once the water pressure has equalized.



1. _____
2. _____
3. _____

Your car is sinking

First, open the car windows. You want water to fill the car so the pressure on the inside and outside of the car is equal. Now you will be able to open the doors. Get out of the car as quickly as possible. If you can't open the windows, try to break them. If that doesn't work, wait as water coming through the trunk and engine slowly fills the car. Once the water has reached your head, the water pressure should be equalized. Hold your breath, open the door and swim out.

Your tongue is stuck to a cold pole

This isn't life-threatening, but it is painful and embarrassing. The best advice is to not put your tongue on a freezing pole in the first place. But if you do, don't try to quickly pull your tongue off the pole—you may rip it! Instead, move your hands (they should be in gloves!) over the pole near your tongue. This should warm the pole enough to let you slowly pull your tongue off. If warm water is nearby, splash it over your tongue to thaw it. Don't put cool water or your saliva over the area: they will both freeze, making the situation even stickier.

Comprehension Check

Underline the sentence that advises how to avoid getting your tongue stuck to a cold pole. What might happen when trying to get your tongue unstuck?



Reading Strategy: Skim

Skim the paragraph for sentences with exclamation points. Underline the sentences that have exclamation points. Why do you think the writer of a how-to manual uses exclamation points?



Comprehension Check

Underline the sentence that tells you what kind of water you should splash over your tongue. Why is it important to use this kind of water instead of cold water?



Choose one and complete:

1. Draw a chart to explain Mendel's experiments. Label the chart using words from the Mendel's Numbers section of "Take a Chance!"
2. Imagine you are filming a movie that tells about survival tips. Describe the various locations where you would film the movie.
3. Using the Internet, find a survival tip not discussed in the reading. List the steps for that survival tip.

READING WRAP-UP

Retell It!

Imagine that you were involved with some of the disasters in "A Survival Mini-Manual." Write a letter to a friend telling the person how you survived. Include details from the reading.

Reader's Response

Of all the situations described in the reading, which situation do you believe you might face in your life? Explain your reasoning.

Think About the Skill

How did skimming help you to read each article?



EDIT FOR MEANING

Read

You have read "A Survival Mini-Manual." Now read a passage from it again.

You are stuck in quicksand

Just remember: don't struggle wildly. Thrashing around will make you sink faster. Quicksand is sand saturated with underground water. Like regular water, you can float on its surface. Try shifting your body until you're lying on your back. Now you can float on the quicksand as if you were in a swimming pool. Maneuver yourself to the edge of the quicksand and escape.



Fix the Error

Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so that the information is correct.

1. Find and fix the error.

You are stuck in quicksand

Do not struggle wildly. If you thrash around, you will survive and escape. Quicksand is sand mixed with underground water. You can float on its surface just like regular water. Try shifting your body until you're lying on your back. This will allow you to float on the quicksand like you would in a swimming pool. Move to the edge of the quicksand and climb out.

2. Find and fix the error.

You are stuck in quicksand

The first thing to remember is not to move around a lot. You will sink faster if you thrash around. Underground water seeps up through sand and makes quicksand. Like regular water, there is absolutely no way you can float on its surface. Shift your body until you are on your back. Float on the quicksand just as you would in a swimming pool. Move your body toward the edge of the quicksand and escape.

FOCUS on DETAILS

Mystery Word Puzzle

To complete this mystery word puzzle, you'll need to remember or search for details from the reading. Use the clues to help you unscramble each of the words. Write the words in the boxes. The numbered letters will form the mystery word.

1. Expressed by a number from zero to one

BATBIIYORLP

P	R	O	B	A	B	I	L	I	T	Y
1										

2. A spinner's shape

HEGANXO

6							

3. Injected when a snake bites

VONME

--	--	--	--	--	--

4. Grab this during an avalanche

RETE

--	--	--	--	--

5

5. The time of day a shark usually attacks

GIEVENN

--	--	--	--	--	--	--	--

3

6. Sand saturated with underground water

KCNIQDAUS

--	--	--	--	--	--	--	--	--	--	--

4

7. Conducted by metal in a lightning storm

ILETICYRICET

--	--	--	--	--	--	--	--	--	--	--

2

8. What a bear thinks a running person is

RYPE

--	--	--	--	--

9. May happen to a tongue pulled too quickly

RPI

--	--	--

What should you hold before opening the door of a sinking car?

B						
1	2	3	4	5	6	

READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.
2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.
3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.
4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.
5. Write down any words that slowed you down. Practice saying these words out loud.
6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

You are in a lightning storm

It's not what you do—it's what you shouldn't do. Don't stay in high places or on open ground. Don't stand under a tree or a flagpole or in a picnic area, baseball dugout or bleachers. Don't go near metal fences or any body of water. It's better to stand inside a large building than a small one. Once inside, don't touch anything leading to the outside that conducts electricity, such as metal window frames, showers or pipes. Don't use a telephone, computer or TV. If you're inside a car, roll up the windows and try not to touch anything that can conduct electricity.

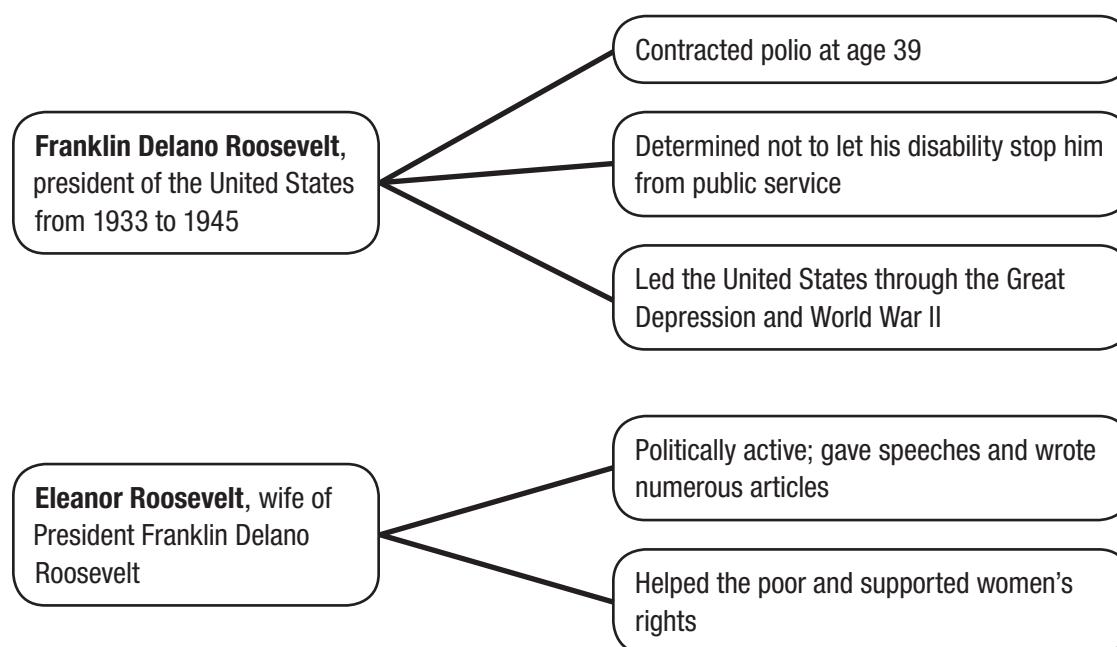
What does it take to beat the odds?

From *Franklin Delano Roosevelt: The New Deal President /From Madam President*

SUMMARY

The first excerpt from a biography tells about Franklin Delano Roosevelt. He was president of the United States from 1933 to 1945. When he was thirty-nine, Roosevelt caught the disease polio and lost the use of his legs. However, he refused to let his disability end his political career. Roosevelt was elected president four times. He led the United States through the Great Depression and World War II. The second excerpt from a biography tells about the achievements of Eleanor Roosevelt, the president's wife. She used her power and popularity to help the poor and support women's rights.

Visual Summary





Use What You Know

Write about a time when you were ill. Describe how you felt.

Text Structure

A biography records the triumphs and struggles of a well-known person. Read the first paragraph on this page. Circle the name of the disease that Roosevelt was diagnosed with. In your own words, write where and at what age Roosevelt became ill.



Reading Strategy: Summarize

Summarizing is retelling the main ideas of a story or passage. In the second paragraph, underline the words that describe Roosevelt's illness. Summarize Roosevelt's symptoms in a sentence.



From Franklin Delano Roosevelt: The New Deal President

by Brenda Haugen

What are the odds that a thirty-nine-year-old just diagnosed with polio would go on to become the only president elected to more than two terms in office? It was while vacationing with his family in Canada that Roosevelt went to bed one night and awoke the next morning unable to walk.

Eleanor contacted a country doctor to examine her husband. Dr. E. H. Bennett thought Roosevelt was just suffering from a bad cold. But when Roosevelt's health grew worse, Bennett was stumped. He couldn't explain Roosevelt's severe leg and back pain. In a couple of weeks, his suffering intensified. He couldn't move any of the muscles below his chest, though the pain there persisted. His temperature shot up to 39 degrees Celsius (102 degrees Fahrenheit). Even the weight of the bedsheets caused him terrible anguish.

anguish, suffering caused by extreme pain or worry



A combination of pain and numbness spread throughout Roosevelt's shoulders, arms, and fingers. A specialist, Dr. William Keen, thought there might be a **blood clot** in Roosevelt's spine, so he prescribed massage, an order Eleanor followed faithfully.

*Normal human body temperature is around 37 degrees Celsius (98.6 degrees Fahrenheit). When a person has a fever, it can be a signal of disease. The brain raises the body's temperature to help fight **viruses** and **bacteria**. The higher temperature makes the body a less comfortable place for the viruses to be. However, a fever higher than 39.4 C (103 F) can cause harm to a person's brain.*

blood clot, a mass of blood that becomes almost solid
viruses, very small organisms that often cause infectious disease
bacteria, very small living organisms that sometimes cause disease

Comprehension Check

Underline Roosevelt's symptoms. Why do you suppose massage might have helped him?



Reading Strategy: Summarize

Underline the reason why people get fevers. Summarize how a fever helps fight a virus.



Comprehension Check

Underline what temperature can cause brain damage. How many degrees is this above normal body temperature?





Reading Strategy: Summarize

Circle the name of Dr. Lovett's diagnosis. Summarize why everyone was shocked by the diagnosis.



Polio is caused by a virus, which affects people in different ways. Some patients feel mild symptoms such as headaches, sore throats, and fevers, which often disappear after a day. Others, like Franklin Roosevelt, suffer permanent paralysis. In the 1950s, scientist Jonas Salk developed the first vaccine to help prevent polio.

Text Structure

A biography often contains quotations or first-hand explanations. Circle the name of the relative who describes Eleanor Roosevelt's reaction to the doctor's news. What do you learn about Eleanor Roosevelt in this section?



When Roosevelt's suffering continued, another specialist, Dr. Robert Lovett, was called. Lovett gave a diagnosis that shocked everyone—infantile paralysis, also known as polio. Until Lovett arrived, no one really even thought of polio because it was considered a disease that only struck children. Roosevelt's son James remembered:

We were all shocked. Mother's first reaction was panic. She wondered what would happen to them and their lives. Then she feared for the health of her children. However, Dr. Lovett decided that if we had not already shown symptoms of the disease and were kept in quarantine away from father, we would probably be all right.

paralysis, loss of the ability to move or feel part of your body

Comprehension Check

In the third paragraph, circle the words that describe Eleanor Roosevelt's reaction to the diagnosis. Why did the doctor feel there was no need for panic over the Roosevelt children?



Apparently Roosevelt had come in contact with the polio virus and, because of his recent strenuous activities, was unable to fight it off. However, Lovett believed Roosevelt would get better, though it might take months.

Roosevelt kept up hope for at least a partial recovery, but it didn't happen. He would never walk again without leg braces and support. Eventually, he would be confined to a wheelchair.

Virtually overnight, 39-year-old Roosevelt went from being strong and athletic to paralyzed and bedridden. He could have let his disability get the better of him. He could have followed the path his mother, Sara, wanted for him. She urged him to lead a life of leisure on the family's estate in New York. Instead, Roosevelt chose to continue living a life of public service. He would serve as governor of New York and later be elected president of the United States during one of the most turbulent times in the nation's history. His determination to overcome his physical disabilities would later be reflected in his determination to overcome some of the nation's most difficult times.

Comprehension Check

Underline the sentence that tells what Dr. Lovett predicted about Roosevelt's health. Explain whether he was correct or incorrect.



Text Structure

A biography often describes the choices a person makes. Underline the sentence in the final paragraph that describes an important choice Roosevelt made. List the two roles Roosevelt held as a politician.



1. _____
2. _____

Reading Strategy: Summarize

Underline the sentence that makes a connection between Roosevelt's physical disability and his attitude as president. Why do you think Roosevelt's struggle with polio made him a strong leader in times of great difficulty?





Comprehension Check

Underline the sentence that shows how much the American people liked Roosevelt. Why do you suppose people liked and admired him?



Reading Strategy: Summarize

Underline what the passage says about when Hitler came to power. In one sentence, summarize what the passage says about Hitler's actions.



Text Structure

A biography often covers the difficult decisions a well-known person had to make.



Underline the sentence that mentions when World War II began. Why do you think Roosevelt felt the United States would eventually have to fight in the war?

Roosevelt was elected president four times and served longer than any other in history. When he first took office, the country stood in the midst of the Great Depression, the greatest economic crisis the United States had ever faced. Millions of people were unemployed. Many were homeless and starving. The situation grew worse when dust storms and drought struck the country's heartland and food supply, causing the Dust Bowl.

With his New Deal programs, Roosevelt made sweeping changes to bring immediate aid to those who were suffering. The work Roosevelt did during the Great Depression saved a desperate nation. Yet it wouldn't be the only challenge he would face. Around the same time Roosevelt was first elected president, a man named Adolf Hitler came to power in Germany. The world watched as Hitler conquered numerous countries in a quest to create a German empire across much of Europe. The September 1939 invasion of Poland marked the beginning of World War II. Though most Americans wanted to stay out of the war, Roosevelt knew it would only be a matter of time before the United States would become part of it.

From *Madam President*

by Catherine Thimmesh

She put the “first” in first lady. Hold her own press conferences? She was the first. Deliver a weekly radio address? First again. Write a daily newspaper column? You guessed it—numero uno. She also delivered countless speeches, published hundreds of articles, and wrote several books. She was Eleanor Roosevelt, and in the 1930s she assumed the role of first lady as none before her had done. Eleanor was a trumpeter of just causes, a tireless advocate for the underprivileged, and undoubtedly, the most engaged and politically influential woman the United States had ever seen. Her immense popularity brought with it unheard of power for a first lady—and she wasn’t shy about using it. Eleanor championed the advancement of women and made it a point to consistently bring issues of women’s equality front and center—for the president and for the nation.

Her reminding apparently paid off. It was her husband, after all, who appointed the first woman to serve in a presidential cabinet. And if Mrs. R. (as she was affectionately called) ever wearied of accumulating a string of “firsts,” she didn’t show it. After a twelve-year stint as first lady, she was appointed the U.S. delegate, or representative, to the newly formed United Nations—an official government post. Another first.

Choose one and complete:

1. Make a timeline to show events and accomplishments in President Roosevelt’s life.
2. Research Eleanor Roosevelt’s life. Write a brief report summarizing what you learn.
3. Write a letter to President Roosevelt and/or Eleanor Roosevelt explaining why you would like to meet them.

Comprehension Check

Underline the three sentences in the first paragraph that end in a question mark. List three things Eleanor Roosevelt did that no first lady had done before.



1. _____
2. _____
3. _____

Reading Strategy: Summarize

Underline what the text says about Eleanor Roosevelt’s popularity. Summarize what Eleanor Roosevelt cared about.



Comprehension Check

Underline what the text says about what Mrs. Roosevelt did after her twelve years as first lady. Why do you think this new role interested her?





READING WRAP-UP

Retell It!

Imagine that a friend of yours has never heard of Franklin or Eleanor Roosevelt. Summarize their lives and accomplishments.

Reader's Response

Who do you find more interesting: Franklin Delano Roosevelt or Eleanor Roosevelt? Explain your choice.

Think About the Skill

How did summarizing help you better understand the information in this article?



EDIT FOR MEANING

Read

You have read an excerpt from *Franklin Delano Roosevelt: The New Deal President*. Now read a passage from it again.

Franklin Delano Roosevelt: The New Deal President

When Roosevelt's suffering continued, another specialist, Dr. Robert Lovett, was called. Lovett gave a diagnosis that shocked everyone—infantile paralysis, also known as polio. Until Lovett arrived, no one really even thought of polio because it was considered a disease that only struck children. Roosevelt's son James remembered:

We were all shocked. Mother's first reaction was panic. She wondered what would happen to them and their lives.



Fix the Error

Each passage below contains the same information as the passage you just read. However, each passage contains one error. First, find the error. Then fix it by editing the sentence so the information is correct.

1. Find and fix the error.

Franklin Delano Roosevelt: The New Deal President

Roosevelt's suffering continued. Dr. Robert Lovett, another specialist, was called to take a look at Roosevelt. Lovett gave a diagnosis that relieved everyone—he said it was just the common cold. Until Lovett provided his diagnosis, no one had even thought of polio as the cause of Roosevelt's condition, because it was thought that only children were struck by polio. The president's son James remembered:

We were all shocked. Mother panicked of course. She didn't have any idea what would happen to them.

2. Find and fix the error.

Franklin Delano Roosevelt: The New Deal President

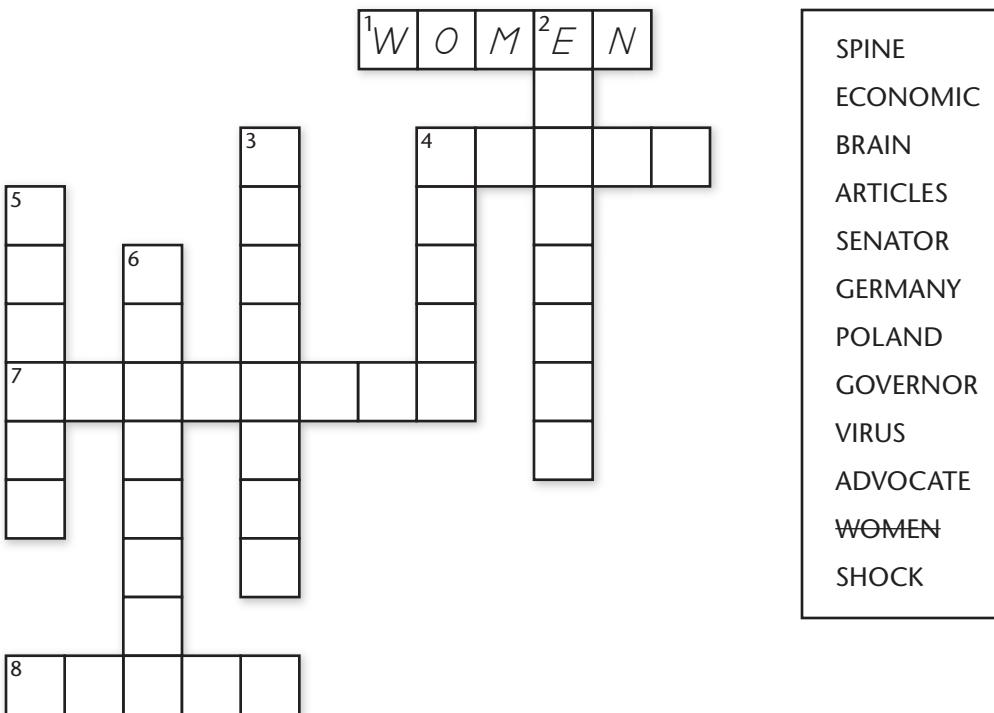
Roosevelt continued to suffer, so another specialist named Dr. Robert Lovett was called. Everyone was shocked when Lovett diagnosed Roosevelt with infantile paralysis, also known as polio. Until Lovett arrived, everyone pretty much suspected it was polio. Roosevelt's son James remembered:

All of us were shocked. Mother felt panic at first. She wondered what would happen to her and Father.

FOCUS on DETAILS

Crossword Puzzle

To complete this crossword puzzle, you'll need to remember or search for details from the reading. Use the words in the word box to help you. Not all of the words in the word box are in the puzzle. Fill in the crossword with answers to the clues below.



Across

1. Eleanor Roosevelt wanted equality for these people
4. The family's reaction to the polio diagnosis
7. What Eleanor Roosevelt was for the underprivileged
8. Polio is caused by one of these

Down

2. The kind of crisis the United States faced when Roosevelt became president
3. Eleanor Roosevelt published hundreds of these
4. Dr. Keen thought Roosevelt had a blood clot here
5. The invasion of this country began World War II
6. The political office Roosevelt held in New York

READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.
2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.
3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.
4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.
5. Write down any words that slowed you down. Practice saying these words out loud.
6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

Franklin Delano Roosevelt: The New Deal President

Roosevelt was elected president four times and served longer than any other in history. When he first took office, the country stood in the midst of the Great Depression, the greatest economic crisis the United States had ever faced. Millions of people were unemployed. Many were homeless and starving. The situation grew worse when dust storms and drought struck the country's heartland and food supply, causing the Dust Bowl.

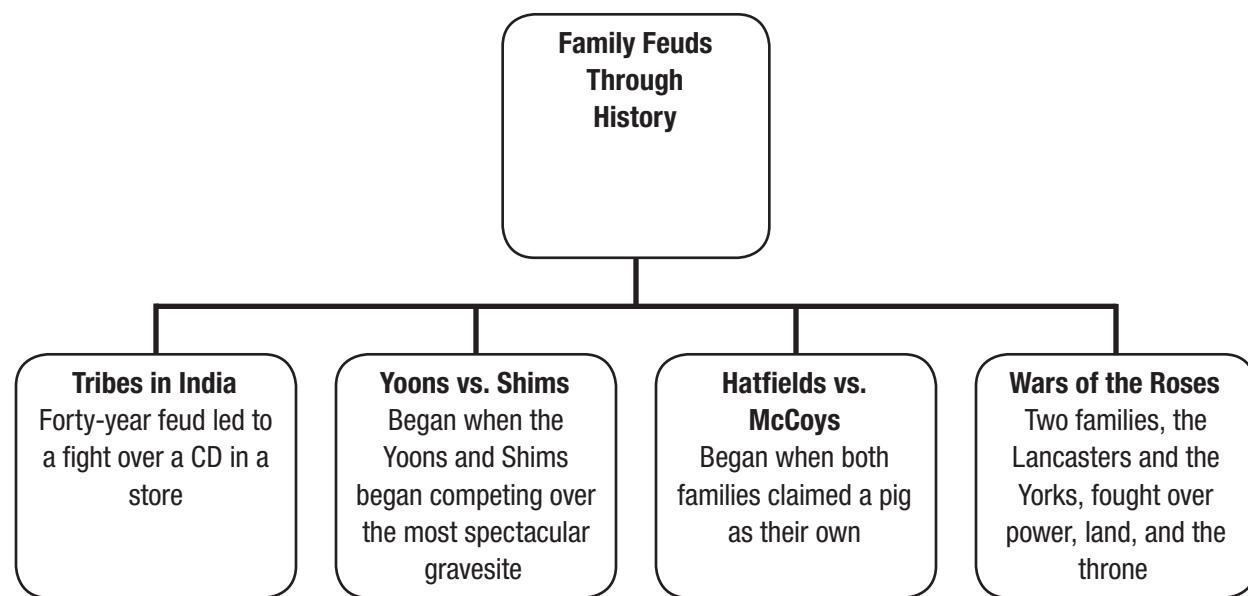
How do conflicts affect us?

"Furious Feuds: Enemies by Association"

SUMMARY

This social studies article tells about famous family feuds. Feuds are angry arguments that continue for a long time. The article tells about a forty-year-old disagreement between two tribes in India. Next, it describes a strange feud between two Korean families, the Yoons and the Shims. Each family tries to make its family gravesite larger and more impressive than the other family's. Then it explains a violent feud between two American families, the Hatfields and the McCoys. Finally, it describes the "Wars of the Roses," a feud between two powerful English families who fought from 1455 until 1487 to control the country.

Visual Summary





Use What You Know

Describe a conflict you have had with someone. How did you resolve it?

Text Structure

A social studies article sometimes has a subtitle in addition to the main title. Draw a box around the subtitle on this page. What information does it provide that the title does not?



Reading Strategy: Take Notes

Taking notes helps you remember key ideas from the text. Circle the location of the feud mentioned on this page. Then make a short note to help you remember.



Furious Feuds: Enemies by Association

by Alfred Meyer

Tribal Rivals

"You just wait," said a boy on the playground to another larger boy who was bullying him. "I'm sick of this. I'm going to get my big brother."

"Ha," replied the bully, "then I'll get *my* big brother."

Often, the big brother threats prove empty. But sometimes they don't. Also, sometimes more than close relatives are called in to take part on one side of a dispute.

In a small market store in India, not long ago, two young men nearly **came to blows** over which of them would get to buy the last remaining CD made by a popular musician. Neither man gave in as a crowd gathered, expecting a fight. As it happened, each man belonged to a different local **tribe**, tribes that for forty years had feuded with each other, often resulting in bloodshed when conflicts arose between them. As the tension in the market rose, word spread.

came to blows, started hitting each other
tribe, a social group that shares a common ancestry and culture and who are typically ruled by a leader or council



First, the brothers of each of the young men dashed up and confronted one another. Members of each of the two tribes appeared next, eager to represent their tribe in this **squabble**. But then, just as serious violence seemed about to break out, the police arrived. The police captain quickly recognized the two tribal chiefs, and convinced them to order their tribe members to turn around and go home peacefully.

Although the feud between the two tribes may not have ended for good, at least on this day no fighting took place. Nor, when it comes to feuds in general, is forty years a very long time. Some feuds last for **generations**, and even centuries.

A Grave Competition

One of the longest lasting feuds on record began centuries ago in Korea. It is also a strange one since it involves two individuals who never met each other and who actually lived more than 400 years apart. Instead, it is the descendants of twelfth-century General Yoon Gwam and seventeenth-century Prime Minister Shim Ji Won who started and kept the feud going.

squabble, disagreement

generations, average periods of time between parents and children

Text Structure

Social studies texts often contain highlighted words.



Their definitions are at the bottom of the page. Circle the first highlighted word on this page. Read its definition. Rewrite the sentence without using the word.

Comprehension Check

Underline the sentence in the second paragraph that tells how long some feuds last. Why do you think some feuds can last for generations?



Comprehension Check

Draw a box around the country where one of the longest feuds took place. What was unusual about this feud?





Reading Strategy: Take Notes

Notes can remind you of key concepts. Underline the main ideas in the first paragraph. Then make a short note to help you remember.



Text Structure

Draw a box around the first highlighted word on this page. Look at its definition. Then use the word in a new sentence.



Comprehension Check

Circle the sentence that tells you the state of the feud today. Why do you think the elders still frown upon marriage between the two clans?



For like many Koreans, the descendants believe that the gravesite of an important ancestor must be as perfect as possible to assure good fortune. That is, a poor gravesite will displease the spirit of the ancestor, which will then bring about bankruptcies, illness, and all manner of calamity to anxious descendants. Over the years, the rivalry for a better gravesite between the Yoon and Shim clans resulted in the two gravesites being moved many times, always in the desire of creating a gravesite more spectacular than that of the rival's ancestor. The competing clans took into account the physical beauty of the landscape as well as the architectural splendor of the tombs themselves.

The rivalry also turned nasty, and sometimes violent, despite efforts by Korean authorities to calm matters. The clans simply wouldn't stop trying to outdo each other. Today, bad feelings still mark the relationship between the clans, even though a kind of peace treaty exists between them. Yet the elders of both clans strongly frown upon marriage between Yoona and Shims.

calamity, very bad, unexpected event
clans, large families
frown upon, disapprove of



"Not even over my dead body!" says 77-year-old Yoon Bu Hyun, a leader of the Yoon clan. "You tell me," he says. "Would you marry your son to the daughter of your sworn enemy?"

Family Feud

In the United States, the best-known family feud began around 1878 between the Hatfields and McCoys. They lived near each other along the Kentucky-West Virginia border. It's hard to know exactly what happened, but one day a McCoy hog was found on Hatfield property, so the Hatfields claimed the hog was theirs. Not so, said the McCoys, adding that it was *their* property anyway. The disagreement ended up in a court of law. Based in large part on what Bill Staton, a relative of both families, had to say, the jury ruled in favor of the Hatfields. Shortly after, Staton was shot dead by two McCoy brothers.



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Text Structure

Social studies articles often include quotations. Circle all the quotes in the first paragraph. What is the speaker's opinion of the Shim clan?



Reading Strategy: Take Notes

Draw a box around the main idea in the second paragraph. Then make a note of the key facts in the paragraph.



Comprehension Check

Underline the sentence that describes a terrible outcome of the feud between the Hatfields and McCoys. Why do you think the McCoys acted with such violence toward Bill Staton?





Comprehension Check

Circle two words that relate to cooking in the first paragraph. Why do you think these are good words to describe what was happening in the feud?



Reading Strategy: Take Notes

Underline the main idea in the first paragraph. Then make a quick note of what brought the feud to a boil.



Comprehension Check

Underline the sentence that tells who finally restored peace between the two families. Why do you think Roseanna and Johnse stayed apart even after the end of the feud?



The feud now simmered. What brought it to a boil was when a pretty young McCoy girl, Roseanna, fell in love with Johnse Hatfield. The couple did not marry, and Roseanna eventually moved back into the McCoy household. But when she decided to go with Johnse after all, the McCoys chose to act. They kidnapped Johnse, intending to do him harm. But Roseanna alerted the Hatfields, who sent out a rescue party and saved him.

The feud, however, grew worse. The fighting got so bad that the governors of West Virginia and Kentucky called out the National Guard to restore peace between the two families. Yet even after the feuding ended, Roseanna and Johnse stayed apart, although she still loved him. It must have saddened her to learn a few years later that Johnse ended up married oddly enough to one of her cousins, a McCoy. Roseanna died unmarried and, folks said, maybe of a broken heart shortly after her thirtieth birthday.

Houses at War

If William Shakespeare had lived toward the end of the nineteenth century, he might well have written a play about “star-crossed lovers” called *Johnse and Roseanna*. He actually wrote *Romeo and Juliet*, a tragedy that unfolds against the background of a feud between two families, the Montagues and the Capulets. The story of this feud had been told and retold many times before Shakespeare turned it into a play in 1590. Indeed, the same story served as the basis for a popular musical play, *West Side Story*. In this version, Tony and Maria were based on Romeo and Juliet, and two rival street gangs—the Jets and the Sharks—were based on the Montagues and the Capulets.

Text Structure

Social studies articles often include important dates. Draw a box around the date on this page. What happened at that time?



Reading Strategy: Take Notes

Underline the sentence that contains the main idea on this page. Then make a note to help you remember the key changes made for *West Side Story*.



Comprehension Check

Circle the title of a musical that was based on William Shakespeare’s play. Why do you think audiences were interested in seeing a new play based on an old theme so many years later?





Text Structure

Draw a box around the first highlighted term on this page. Look at its definition. Then use the word in a new sentence.



Reading Strategy: Take Notes

Underline the sentence in the second paragraph that contains the main idea. Make a note to help you remember the key participants in this feud.



Comprehension Check

Circle the sentence that tells what royal families were called in England long ago. How can families be like *lines* or *houses*?



In his history plays Shakespeare wrote about conflicts that were greater in scale than most family feuds. That is, what started as feuds between aristocratic families in England over land and the right to become king or queen grew into a series of civil wars. This meant that families had to be powerful and rich enough to enlist knights and soldiers for an army. Then it could wage war against the army of a rival family.

Perhaps the best known of such conflicts is called “The Wars of the Roses,” which took place from 1455 until 1487, just before Shakespeare’s time. It involved two rival branches of the royal Plantagenet family—the Lancasters and the Yorks. Among the English nobility, family roots were key to power and influence in the country’s affairs. Families themselves were referred to as Lines or Houses. The House of Lancaster used a red rose as its emblem, while the House of York used a white rose. Each House wanted nothing less than the throne of England itself.

scale, size, compared to what is normal
knights, men trained to fight for a king
branches, family groups who share the same ancestors
emblem, a picture, shape, or object that represents
something

Unfortunately for both Houses, the wars between them proved so costly that neither of them could successfully claim the throne. Instead, the House of Tudor made good its own claim as Henry VII became king.

Feuds start up—or are occasionally rekindled—for a variety of reasons such as an insult to a family, tribe, or gang member; a disagreement over who owns a farm animal; who should inherit a house; or who gets to rule over a group of people or an entire country.

Comprehension Check

Underline the sentence that tells why neither house could claim the throne. Why do you think the House of Tudor was able to claim it?



Text Structure

Social studies articles often include the names of historical figures. Draw a box around the name of a person from history on this page. Who was Henry VII?



Comprehension Check

Circle the conclusion of the article. Then, restate this conclusion in your own words.



Choose one and complete:

1. Make a diagram that outlines the cause and effects of one of the feuds described in the article.
2. Work with a partner to choose one of the conflicts from this article. You should each pick a side of the conflict and then role-play as characters from that side. Explain what your positions are and why you feel the way you do.
3. Imagine you are a reporter. Write a short article about one of the feuds. Remember to answer the questions *who, what, where, and why*.



READING WRAP-UP

Retell It!

Imagine that you are a member of the Hatfield or the McCoy family. Write a letter to a relative to describe the family feud.

Reader's Response

Think about one of the conflicts in the article. Tell some ways you think the conflict could have been avoided.

Think About the Skill

How did taking notes help you to better understand the article?



EDIT FOR MEANING

Read

You have read “Furious Feuds: Enemies by Association.” Now read one paragraph from it again.

Houses at War

Perhaps the best known of such conflicts is called “The Wars of the Roses,” which took place from 1455 until 1487, just before Shakespeare’s time. It involved two rival branches of the royal Plantagenet family—the Lancasters and the Yorks. Among the English nobility, family roots were key to power and influence in the country’s affairs. Families themselves were referred to as Lines or Houses. The House of Lancaster used a red rose as its emblem, while the House of York used a white rose. Each House wanted nothing less than the throne of England itself.



Fix the Error

Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so the information is correct.

1. Find and fix the error.

Houses at War

Perhaps the best known family feud is a conflict called “The Wars of the Roses.” It took place from 1455 until 1487 and involved two rival branches of the royal Plantagenet family. Family roots were key to power and influence in the country’s affairs. Families themselves were referred to as Lines or Houses. One house used a red rose as its emblem, while the opposing house used a yellow rose. They each fought to claim an enormous prize—the throne of England.

2. Find and fix the error.

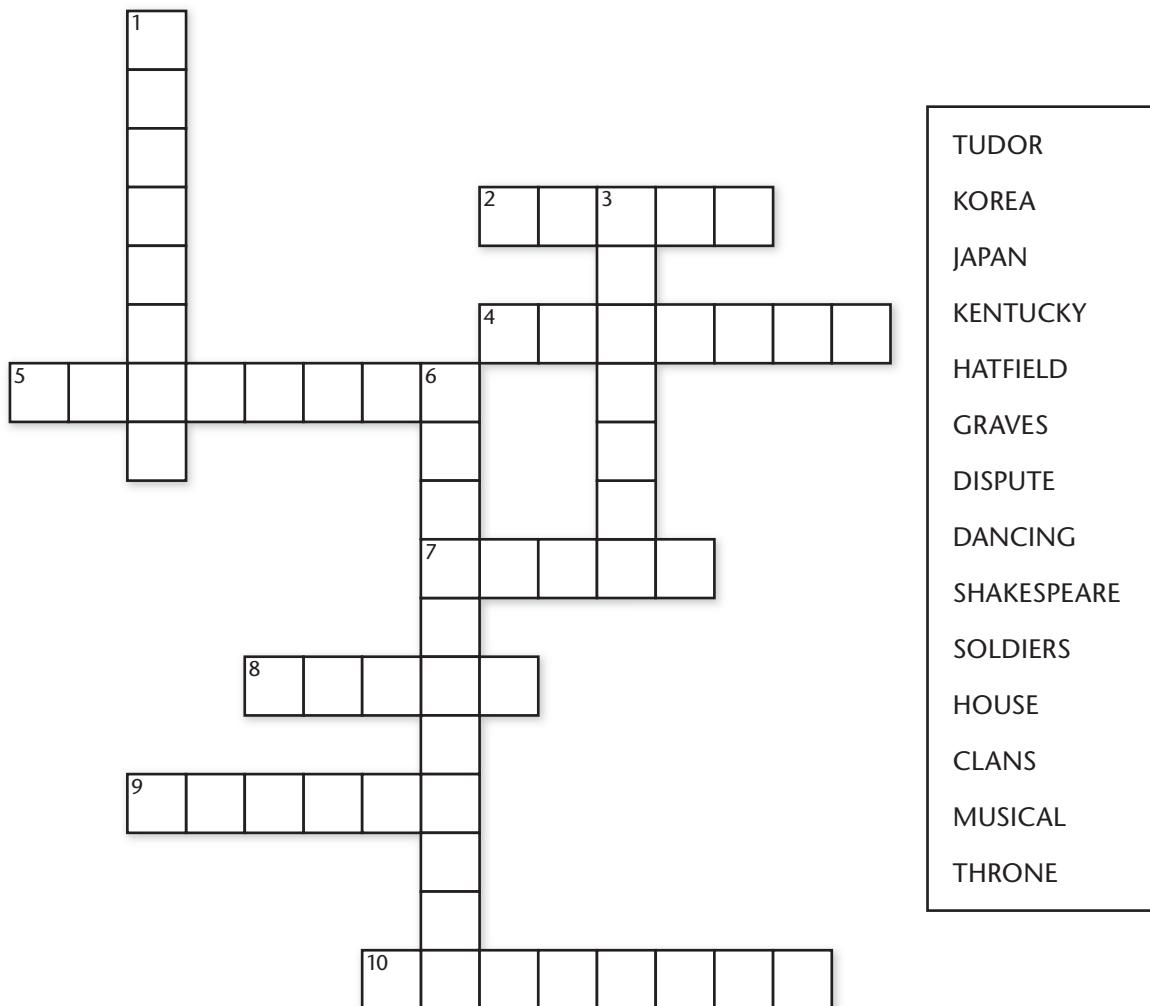
Houses at War

“The Wars of the Roses” is one of the most famous conflicts in history. Two rival branches of the royal Plantagenet family—the Lancasters and the Tudors—fought from 1455 until 1487. At the time, royal families were called Lines or Houses. Each House used a different colored rose for its emblem. These two families battled each other for power and influence in the country’s affairs. Family roots were the key and the throne of England was the prize.

FOCUS on DETAILS

Crossword Puzzle

To complete this crossword puzzle, you'll need to remember or search for details in the reading. Use the words in the word box. Not all of the words in the word box are in the puzzle. Fill in the crossword with answers to the clues below.



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Across

2. Henry VII was a member of this family
4. *West Side Story* is this kind of play
5. Families had to be rich enough to afford them to build an army
7. One of the longest lasting feuds took place here
8. Long ago, a royal family in England was often referred to as this
9. The Lancasters and Yorks fought for this

10. Governors from West Virginia and this state helped restore peace between Hatfields and McCoys

Down

1. This family fought with the McCoy family
3. Sometimes, close relatives are called in to take part in this
6. He wrote a play about the Montagues and Capulets

READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.
2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.
3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.
4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.
5. Write down any words that slowed you down. Practice saying these words out loud.
6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

Tribal Rivals

In a small market store in India, not long ago, two young men nearly came to blows over which of them would get to buy the last remaining CD made by a popular musician. Neither man gave in as a crowd gathered, expecting a fight. As it happened, each man belonged to a different local tribe, tribes that for forty years had feuded with each other, often resulting in bloodshed when conflicts arose between them. As the tension in the market rose, word spread.

First, the brothers of each of the young men dashed up and confronted one another. Members of each of the two tribes appeared next, eager to represent their tribe in this squabble. But then, just as serious violence seemed about to break out, the police arrived. The police captain quickly recognized the two tribal chiefs, and convinced them to order their tribe members to turn around and go home peacefully.

How do conflicts affect us?

From *Conflict Resolution: The Win-Win Situation*

SUMMARY

This informational self-help article gives advice about how to solve problems and end conflicts. It explains that to solve a conflict you must first understand the real reason for the problem. You must understand the other person's point of view by listening carefully to what he or she says. One way of listening is to repeat what the other person tells you in your own words. Another method is to ask questions to get more information. The article states that the best way to find an answer to a problem is to work for a "win-win" solution. This is a solution that satisfies some of the needs of both sides.

Visual Summary

Resolving Conflicts
• Try to understand the real reason for the problem.
• Try to see the other person's point of view.
• Try to use active listening techniques.
• Work for a win-win solution.

Use What You Know

List three reasons why people might get into a conflict.

1. _____
2. _____
3. _____

Text Structure

Social studies texts often include highlighted words. Their definitions are at the bottom of the page. Circle the first highlighted word on this page. Read its definition. Then rewrite the sentence without using the word.

**Reading Strategy: Compare and Contrast**

When you compare, you tell how things are alike. When you contrast, you tell how they are different. Underline two examples of conflicts described on this page. What is one way both conflicts are alike?



Conflict Resolution: The Win-Win Situation

by Carolyn Casey

Getting to the Root of a Conflict

Often what people argue about is not really what they are upset about. A friend might blow up because her locker partner's books tumbled onto the floor when she opened the door. On a different day, she might have laughed at the mess. But because she did not get enough sleep the night before and has a huge test in an hour, the heap of books is no laughing matter. A student might get furious with his girlfriend for canceling their date. But he might actually be worried about being chosen for the basketball team and just be transferring that anxiety onto his girlfriend. It is impossible to solve a conflict without understanding the real reason for the problem.

Feeling caught in a rut is often a sign that people are paying too much attention to the wrong things, or not understanding what the fights are really about. For example, battles between teens and their parents that seem to center on friends or curfews are often reflections of much deeper issues, such as privacy and trust.

blow up, shout angrily at someone
anxiety, a strong feeling of worry about something

It can be helpful to try to look at the situation from the other person's viewpoint. This is difficult to do in the heat of an argument, but it can be done a few hours or days later. Sometimes looking at a problem from someone else's perspective helps people understand the issues better. The issues may be completely different ones than those that were shouted about earlier.

Using an Ear instead of a Mouth: Why Listening Is an Essential Step

An old Hebrew saying is "The beginning of wisdom is silence." When working on conflict resolution, it is important to remember that no one will ever understand the opposite point of view until he or she stops talking and starts listening.



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Comprehension Check

Underline the sentence that suggests a helpful way to understand others' issues. Why can it be difficult to look at issues from another viewpoint in the heat of an argument?



Text Structure

Social studies articles often include subheadings to signal a change in the topic or a new direction. Draw a box around the subheading on this page. What do you think the author means by the phrase "Using an Ear instead of a Mouth"?



Comprehension Check

Underline the Hebrew saying in the second paragraph. Why do you think the writer included this saying?





Comprehension Check

Underline one suggestion in the first paragraph for how to get to the root of an argument. Why do you think it is important to find a pattern in conflicts?



Text Structure

Social studies articles often include sidebars that present additional information about a topic. Circle the sidebar on this page. What kind of information does it provide?



Comprehension Check

Underline the sentence in the last paragraph that explains what can happen when people listen to each other carefully. What do you think might happen if people do not stop to listen to each other during an argument?



Getting to the Root of an Argument

Make a list of what you are fighting about and look for patterns. The argument may start out over a clothing allowance, but the real issue is making purchases without needing to get a parent's permission.

Ask yourself if you are giving mixed messages. Are you telling your friends that you want to be included in their activities but are always rejecting their invitations? Are you telling your boyfriend you want to break up with him, but are still spending hours on the phone with him each night? Make sure you are giving out clear information.

It is easy during an argument to be so busy stating one side of the conflict that no one stops to hear the other side. Sometimes, with careful listening, people discover there is more agreement than disagreement.

There are different ways to listen. Everyone has had the experience of talking to a parent or friend and realizing that person has his or her mind someplace else and is not really hearing what is being said. In our fast-paced society with televisions and radios competing for conversation, people often forget to stop and carefully listen to what is being said.



Comprehension Check

Underline the first point the author makes about listening. How do you expect the author to continue this point in later paragraphs?



Reading Strategy: Compare and Contrast

Circle two things in today's society that compete for conversation. Name one way those things are alike. Name one way they are different.



1. _____
2. _____

Comprehension Check

Underline the passage that tells what people often forget to do in our fast-paced society. Do you agree with the author? Why or why not?





Comprehension Check

Underline the sentence that describes active listening. Imagine you are in a conversation but you are barely paying attention to what the other person says. What might you call that kind of listening?



Text Structure

Social studies articles often include quotations. Draw a box around the quote in this paragraph. Who made this statement? Where did the author find the quotation?



Comprehension Check

Circle the sentence that explains what active listeners can learn. Do you think it is easy or difficult to be an active listener? Why?



Active listening is a style of listening in which people are actually hearing and understanding what is being said. Linda Lantieri and Janet Patti, the authors of the conflict resolution book, *Waging Peace in Our Schools*, write, “Active listening is really listening with the heart. It helps us defuse anger and hostility and gain information.”

Sometimes people think listening is what happens when they take a breath and wait to make their next statement. But it is much more than that.

Active listening—an essential communications tool—involves setting everything aside and truly paying attention to the person who is speaking. People who are active listeners are better able to understand the other person’s feelings and learn his or her perspective. Active listening techniques include:

hostility, unfriendly and angry feelings or behavior



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Paraphrasing Repeat the information you've just heard and reword it. It can feel **artificial** at first, but it is a good way to make sure you are hearing the right information. *Example:* "I am hearing you say that when I take the car without permission, you feel like I am not showing you respect."

Clarifying Get more understanding and information by asking some questions. *Example:* "What did you mean when you said that?" "When did this begin?" or "How did you feel about it?"

Reflecting Echo back the feelings you think someone has. This is similar to paraphrasing but focuses on someone's **underlying** feelings, not the words. *Example:* "You sound really sad about that." Be aware that at times we misjudge someone else's feelings, so this also can be the time for that person to correct us and say, "No, I'm not sad, I'm angry."

Encouraging Get the person to continue talking. *Example:* "Go ahead and tell me about it. I want to hear what you have to say."

artificial, not natural
underlying, very basic or important, but not easily noticed

Text Structure

Social studies articles sometimes put words into **italics** to set them apart from the rest of the text. Circle the words in **italics** that begin each paragraph. What do these words have in common?



Reading Strategy: Compare and Contrast

Underline how the author defines the **reflecting** technique. How does the **reflecting** technique contrast with the **paraphrasing** technique?



Comprehension Check

Place a check mark beside the type of listening technique used in this question: "What else can you tell me about this?" Why do you think this technique can be a good way to avoid conflict?





Reading Strategy: Compare and Contrast

How does the *validating* technique compare and contrast with the *summarizing* technique?

Text Structure

Draw a box around the subheading on this page. How does it help you understand what you are reading?



Comprehension Check

Underline the sentence that names three varieties of response to conflict. Why do you think people might use these three approaches at different times?



Validating Let the person know that his or her sharing information is appreciated. *Example:* “I know you are uncomfortable, but I’m glad you are telling me about this.”

Summarizing Briefly recap what the other person said. *Example:* “So my understanding is that you still want to be friends if I stop gossiping about you.”

Learning a New Approach

Responses to conflict can be categorized into three basic groups: soft, hard, and principled. Most people use all three approaches at different times.

In both hard and soft responses, the arguing parties take positions or stands. They then negotiate these positions by trying either to avoid or to win a **contest of wills**. Soft and hard negotiations either bring about one-sided losses or demand one-sided gains. In principled responses, the parties use conflict resolution strategies to produce lasting “wise agreements” that address the interests of both, resolve conflicting interests fairly, and **take into account** how others will be affected by the agreement.

contest of wills, situation in which people with strong determination oppose each other
take into account, allow or plan for a certain possibility

Sharon and Tami are ninth graders who have been best friends since kindergarten. They share everything: clothes, makeup, and secrets. Last weekend, Tami borrowed Sharon's favorite pair of jeans to wear rollerblading. When Tami fell off a curb, she tore a huge hole in the jeans. Sharon, who was going to wear the jeans on a date this weekend, is about to get the news.



Text Structure

Social studies articles often use real-life examples to explain information. Summarize the real-life example in the paragraph.

Comprehension Check

Underline the passage that describes the source of the conflict.



How do you think Sharon and Tami might solve their conflict?

Reading Strategy: Compare and Contrast

Compare and contrast Sharon and Tami's conflict with one you have experienced.



Comprehension Check

Circle the three types of soft responses to conflict. Why do you think these methods might be used by people who want to remain friends?



Text Structure

Draw a box around the highlighted word on this page. Look at the definition. Then rewrite the sentence without using the word.



Comprehension Check

Underline the sentence that explains what people often find when they use a principled response. Who wins in this type of response?



Soft responses such as avoidance, accommodation, and compromise usually occur between people who are friends or who want to be pleasant to each other because they will continue to have contact in the future. While a soft response might work well in some situations, it can be a problem if it is a teen's only approach to conflict. Usually hard responses to conflict happen between people who are **adversaries** and whose goal is victory. On the sports field, this type of response can win an athletic event. But in relationships, it can cause big problems. Notice that by using a principled response, Tami and Sharon are able to find a solution that works and neither one is hiding her feelings. People who are problem solvers usually pick a principled response to conflict.

Using a principled response preserves relationships. If people work toward a principled response, they are likely to find more cooperation in places where they once found conflict. Why? This response does not create a winner and a loser. Instead people work together to find a solution.

adversaries, opponents

Read Tami's apology and the possible responses Sharon could have.

Tami: I'm so sorry. I can't believe I ruined your favorite jeans. I don't know what to do.

The Soft Conflict Resolution Response

Sharon: It's okay. I didn't really like them that much. I'm just glad you didn't get hurt.

Tami: Do you want me to pay for them or give you a pair of mine?

Sharon: No, it's fine. Really, it doesn't matter. I didn't want to wear them anymore, anyway.

The Hard Conflict Resolution Response

Sharon: I can't believe you ruined them! You knew they were my favorite jeans. You always do this. You have to buy me an identical pair and I need them tonight.

Tami: But I won't have any money until I baby-sit on Saturday, and even then I don't know if I'll have enough. I can probably get you another pair in a week and you could borrow anything of mine until then.

Sharon: I don't want to wear your clothes. I want you to get me a new pair of jeans just like the ones you borrowed. How you come up with the money is your problem.

Text Structure

Social studies articles can present information in many ways. Using different methods helps focus a reader's attention and can make an article more interesting. How does the writer present information about hard and soft conflicts on this page?

Reading Strategy: Compare and Contrast

The dialogue shows how Sharon and Tami might resolve their conflict. How do these two responses compare and contrast?

Comprehension Check

Circle the kind of response you would use in a conflict if you wanted to keep a friend. Is the statement "Don't worry about breaking the mug because I can easily replace it" a hard or soft response? Why?





Reading Strategy: Compare and Contrast

The dialogue at the top of the page shows the principled response. How does the principled response compare and contrast with the hard and soft responses?

Text Structure

Social studies articles sometimes ask readers direct questions.



Circle an example of a direct question in the passage. What do you think is the purpose of direct questions?

Comprehension Check

Underline the type of solution where everyone gets what they need. Why might a principled response be called a win-win solution?

The Principled Conflict Resolution Response

Sharon: I'm really disappointed that you tore them. I really like them and I wanted to wear them this weekend. Now I'm stuck.

Tami: I could lend you a pair of my jeans.

Sharon: That would help, but I think you should replace the pair you tore.

Tami: I wish I could, but I don't have enough money. It might take a couple of weeks to earn it.

Sharon: I do want you to replace the jeans and if it takes a few weeks, that's okay.

What Is Your Style?

- Do you always like to win arguments? Are you more concerned with winning an argument than with hearing the reasons for the other person's opinion? You are using a hard response.
- Do you constantly give in? Are you more concerned about not hurting anyone's feelings or inconveniencing anyone than you are about getting what you want? You are using a soft response.
- Are you able to slow down and listen to both sides of a disagreement? Are you able to tell people what you want and hear what they want? Do you look for a win-win solution? You are using a principled response.

Now, take a few minutes and, on a separate piece of paper, write down a short description of a conflict you had. Maybe it was with your parents, your sister or brother, or a friend.

- What was the argument about?
- What did you want? What did the other person want?
- Do you know why he/she wanted that?
- How did you resolve the conflict?
- How did you feel afterward?
- Was there a possible solution that could have worked for everyone?
- What might you do differently next time?

Comprehension Check

Underline the sentence that tells what the author wants the reader to do. Why might the author want you to write about this?



Text Structure

Social studies articles may involve the reader by asking direct questions. On this page, the reader is asked to think about a personal conflict. Why do you think direct questions help a person understand conflict?

Comprehension Check

Underline the question that most helps you think about your own conflicts. Why did that question help you think about how you might have solved the conflict?



Choose one and complete:

1. Draw a poster that shows the steps and benefits of using principled responses to conflicts.
2. Interview a family member about a conflict he or she had. Decide whether soft, hard, or principled responses were used.
3. Write a dialogue between two characters in a conflict. Have the characters include at least three of the types of active listening strategies in their dialogue.



READING WRAP-UP

Retell It!

Imagine yourself as a world leader. Using details about ways to solve conflicts from the article, write a paragraph that explains your response to a conflict between two groups.

Reader's Response

After reading this article, how might you better handle a conflict in the future?

Think About the Skill

How did comparing and contrasting information in the article help you to better understand it?



EDIT FOR MEANING**Read**

You have read a selection from *Conflict Resolution: The Win-Win Situation*. Now read one paragraph from it again.

Learning a New Approach

Using a principled response preserves relationships. If people work toward a principled response, they are likely to find more cooperation in places where they once found conflict. Why? This response does not create a winner and a loser. Instead people work together to find a solution.

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Fix the Error

Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so the information is correct.

1. Find and fix the error.

Learning a New Approach

Using a principled response completely destroys relationships. By using principled responses, people may be surprised to find conflict transformed into cooperation. If you're wondering why, it is because principled responses do not result in winners and losers. Instead, principled responses create partners working together on a solution.

2. Find and fix the error.

Learning a New Approach

If you use a principled response, you'll find you have a better chance of preserving relationships. If people work toward a principled response, they are not as likely to find more cooperation in places where they once found conflict. This is true because principled responses are more likely to involve both parties working together to get at least part of what each needs.



FOCUS on DETAILS

Mystery Word Puzzle

To complete this mystery word puzzle, you'll need to remember or search for details in the reading. Use the clues to help you unscramble each of the words. Write the words in the boxes. The numbered letters will form the mystery word.

1. Response to conflict with a focus on winning

DARH

--	--	--	--

2. Response to a conflict where one person withdraws

FOTS

9	5		

3. This type of listening is really "listening with the heart"

ACVIET

--	--	--	--	--	--

4. Listening technique that gets the other person to share thoughts and feelings

NOGCUGEINAR

4								

5. Listening technique that recaps what the other person said

MAUNMSIZRIG

8								

6. Listening technique that echoes the other's feelings

CEFLTNIEGR

1	3							

7. A type of solution to a conflict where everyone gets something they need

INW-NIW

			-			
6						

8. The practice of staying away from a conflict

VIODAECAN

7	2							

It is important to get better at resolving conflicts
so we can preserve good _____ with others.

1	2	3	4	5	6	7	8	9

READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.
2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.
3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.
4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.
5. Write down any words that slowed you down. Practice saying these words out loud.
6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

Learning a New Approach

Soft responses such as avoidance, accommodation, and compromise usually occur between people who are friends or who want to be pleasant to each other because they will continue to have contact in the future. While a soft response might work well in some situations, it can be a problem if it is a teen's only approach to conflict. Usually hard responses to conflict happen between people who are adversaries and whose goal is victory. On the sports field, this type of response can win an athletic event. But in relationships, it can cause big problems. Notice that by using a principled response, Tami and Sharon are able to find a solution that works and neither one is hiding her feelings. People who are problem solvers usually pick a principled response to conflict.

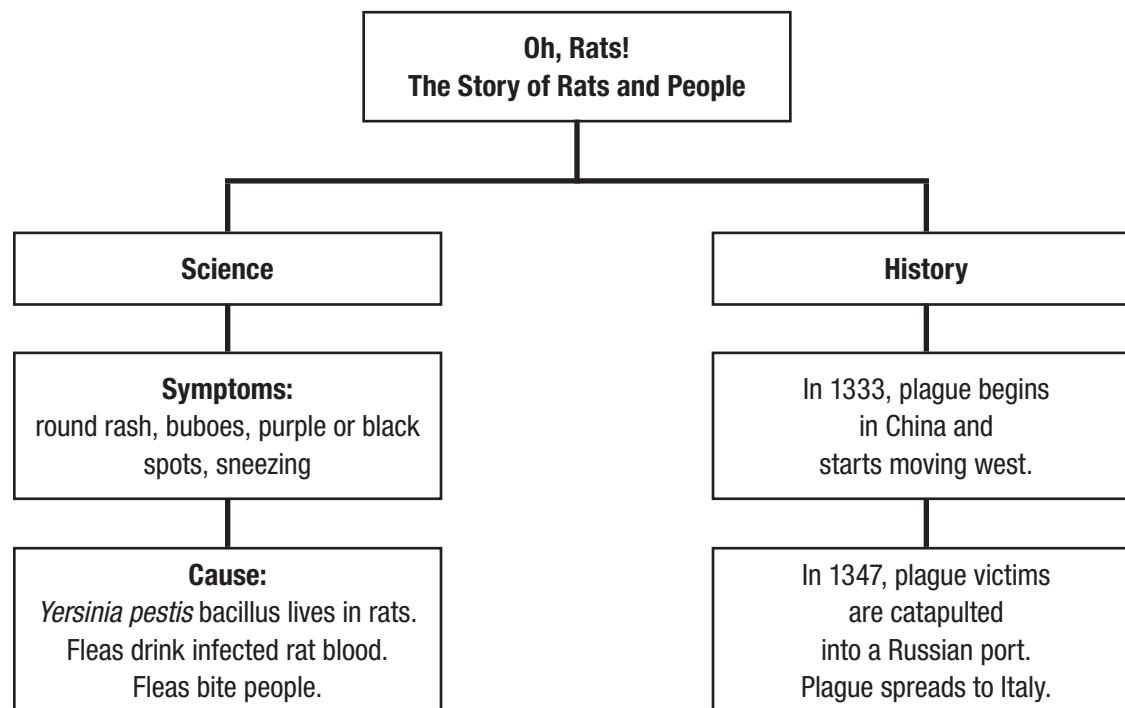
Do things really change?

From *Oh, Rats!: The Story of Rats and People* /
From *Outbreak: Plagues That Changed History*

SUMMARY

The first science article explains how rats spread a disease called the plague. This disease killed millions of people from 1348 to the 1890s. Rats became infected by deadly bacteria. Fleas living on the rats then passed the disease to humans. The article tells how the plague spread across Asia, Russia, and Europe. The second social studies article describes the big changes that happened in fourteenth-century Europe after the plague. With so many people dead, workers could get better wages. At the same time, the cost of things like food and clothing went down. Before the plague, the lower classes could not improve their lives. After the plague, many people rose to the middle class. These changes led to other important changes in law, the arts, trade, and religion.

Visual Summary





Use What You Know

List three facts you know about the ways people catch diseases.

1. _____
2. _____
3. _____

Text Structure

Sometimes a science article has a subtitle in addition to the main title. The subtitle can tell more about the topic of the article than the title alone. Draw a box around the subtitle of this article. How does it help to clarify the article's topic?



Reading Strategy: Analyze Different Kinds of Texts

When analyzing a text, it is useful to think about the sources the author uses. Circle the text of an old children's song in this passage that tells how children felt about the plague. What does the song have to do with rats?



From *Oh, Rats!: The Story of Rats and People* by Albert Marrin

Rats are disease carriers. Scientists nicknamed them "germ elevators," for they bring up microorganisms, or minute life-forms, from streams of sewage that flow beneath the earth's surface. Microscopic bacteria and viruses live in their bodies. Larger creatures such as fleas, lice, ticks, and mites live in their fur. Because of this, rats carry and spread a host of diseases.

An old children's song tells of the worst disease carried by rats.

*Ring around the rosy,
Pockets full of posies.
Ashes, ashes,
All fall down.*

The song deals with a disease called plague. From 1348 to 1352, it was the scourge of the known world. When plague struck, many people died. One never knew who would sicken and die next. Even staying at home, behind locked doors, could not keep you safe. To calm their fears, children sang while playing funeral.

The song describes the course of infection. One of plague's earliest signs is a round red rash, "ring around the rosy." As victims sickened, friends filled their pockets with posies, sweet-smelling flowers to mask the foul odor they gave off. Before dying—falling down—victims often had fits of violent sneezing, a sound children imitated as "ashes, ashes."

Buboies are another sign of plague. Sick people develop buboies, or swollen glands, in the neck and armpits. Thus, the disease is also called bubonic plague. “Black Death” is yet another name for it. That is because, in its last stages, victims develop large purple or black spots on their skin.

Whatever we choose to call it, the disease is caused by bacteria called *Yersinia pestis*. This is Latin for “Yersin’s plague,” named for Dr. Alexandre Yersin, the French scientist who discovered it in 1894, during an epidemic in the Chinese city of Hong Kong. *Yersinia pestis* is a bacillus belonging to a family of bacteria shaped like thin rods. Visible only under a microscope, a single plague bacillus is 1/10,000th of an inch in length. Thousands of them could fit into the period at the end of this sentence. Like all bacteria, it reproduces by dividing into two identical individuals. Each new bacterium then divides again and again. In this way, a single plague germ can become billions inside a victim’s body.

Comprehension Check

Circle the name of the swellings that developed in the neck and armpits of plague victims. Why is the plague also known as “Black Death”?



Text Structure

Science articles often include topic sentences that tell the main idea of a paragraph. Underline the topic sentence in the second paragraph. Then list three details that support the main idea.



1. _____
2. _____
3. _____

Comprehension Check

Circle the sentence that tells how bacteria reproduce. Why would that make it easy for bacteria to spread quickly?





Comprehension Check

Underline the text that tells where the rat flea lives. List three facts about this insect.



1. _____
2. _____
3. _____

Text Structure

Science texts often include highlighted words. Their definitions appear at the bottom of the page. Draw a box around the word on this page. Look at the definition. Then use the word in a new sentence.



Comprehension Check

Underline the text that tells the first sign of the plague. Why is it dangerous for infected rats to be near humans?



At first, *Yersinia pestis* lived in the bodies of wild rodents in China, including rats. A type of flea, the rat flea, lives in rat fur. A giant compared to a plague bacterium, this insect is smaller than a lowercase *o* on this page. Yet it is a mighty creature. Although wingless, it can jump two hundred times higher than its body length. If you could do that, you could easily leap over a sixty-story building.

Fleas feed on **mammal** blood, which they draw out with a sharp, stiff sucking tube that resembles a mosquito sucker or an injection needle. A single rat can have hundreds of rat fleas. If a rat is carrying the plague bacillus in its blood, fleas will take it in with their sucking tubes. If they bite other mammals, they will pass on the bacillus in turn.

When poisons given off by the bacillus start killing an infected rat, its body temperature drops. This tells the resident fleas to move on. The first sign of a coming outbreak of plague is hundreds of dying rats staggering out of their burrows. If fleas cannot find another rat, they go after other mammals. If people are nearby, they will bite them. Eventually, the bacillus kills the fleas, too.

mammal, humans and other animals that are warm-blooded and drink mother's milk



History's worst outbreak of plague began in China around the year 1333. Called "the Destroying Angel," it killed 13 million people in China and another 25 million in the rest of Asia. After that, it moved westward across the Russian plains in the bodies of fleas and rats that joined the camel caravans.

By 1347, it had reached the Russian port of Kaffa on the Black Sea. A war was going on. To get Kaffa to surrender, the attackers used catapults to hurl dead plague victims over its walls into the city. In other words, they used plague as a "weapon of mass destruction." The tactic worked—only too well. Plague killed most of Kaffa's population, and much of the attacking army besides. It also infected rats aboard Italian ships that had come there to trade for silks and spices.

plains, prairie areas
caravans, groups of people who travel together over a long distance
tactic, plan of action

Text Structure

Science articles often include important years or dates. Circle the year the worst plague in history began. Why might this plague have been called "the Destroying Angel"?



Comprehension Check

Underline the text that tells where the plague began. Then describe the path it followed from there.



Reading Strategy: Analyze Different Kinds of Texts

Science articles provide information on science topics. Social studies articles provide information on history, geography, or current events. Underline the text that tells how attackers used dead plague victims in a war against Kaffa. Would this information most likely be included in a social studies or a science article on the plague? Why?





Comprehension Check

Underline the text that tells how infected rats traveled into Italy. How did the plague reach every corner of Europe?



Reading Strategy: Analyze Different Kinds of Texts

Circle the text that tells who the author addresses in the second paragraph. Why might the author have chosen to use that technique in this section?



Comprehension Check

Underline the text that describes what doctors wore when they treated plague victims. Why do you think these costumes did not prevent them from getting sick?



Before long, infected rats with infected fleas came ashore in Italian seaports. From there, the plague traveled with them in wagons along the roads. It went from town to town, even to distant farming villages, reaching almost every corner of Europe.

Right now, you know more about plague than the most educated person in those days. Nobody knew about bacteria because nobody had ever seen any before the invention of the microscope three centuries later. Ignorant of the cause of plague, or how it spread, people tried to save themselves. It never occurred to anyone that rats and the fleas that lived on their fur could be responsible for the sickness.

Doctors who visited the sick wore special costumes. These consisted of a gown that went from their shoulders to their feet and a hood with a long “beak” to carry spices thought to protect against plague. Yet doctors died as fast as their patients.

ignorant, unaware; not knowing

By 1351, the plague had run its course. "The Great Dying," as it was called, left about 25 million dead. That is, one in three Europeans. In the centuries that followed, it often returned. Plague died out in Europe around 1732 for reasons scientists still do not completely understand. The last serious outbreak struck Asia in the 1890s, taking 10 million lives.

Rat-Borne Diseases

Rats carry eighteen diseases that affect people. The most serious are:

- rat-bite fever, marked by high temperature, rashes, and heart damage, especially in children.
- Lassa fever, a high fever often leading to death.
- typhus, marked by splitting headache, high fever, sometimes leading to death.
- polio, also called infantile paralysis.
- meningitis, a swelling of the area around the brain. It can cause brain damage or even death.
- trichinosis, caused by tiny worms that hook onto human intestines to steal food.

Comprehension Check

Circle the year that the plague died out in Europe. Where did the last outbreak of the disease occur? How many victims died during that outbreak?



Text Structure

Science articles often present factual information in lists. Draw a box around the list on this page. Why might the author have chosen to put this information in list form?



Comprehension Check

Underline the name of the disease that the text says is especially dangerous to children. Is this disease likely to be transmitted by fleas? Why or why not?





Comprehension Check

Underline the text that tells how many people get plague in the United States each year. How do most of those people become infected?



Text Structure

Circle the first two highlighted words on this page. Look at their definitions. Reread the sentence in which they appear. Rewrite the sentence without using the two words.



Comprehension Check

Underline the sentence that describes the way doctors treat plague today and prevent people from getting the disease. What else do governments do to help prevent plague?



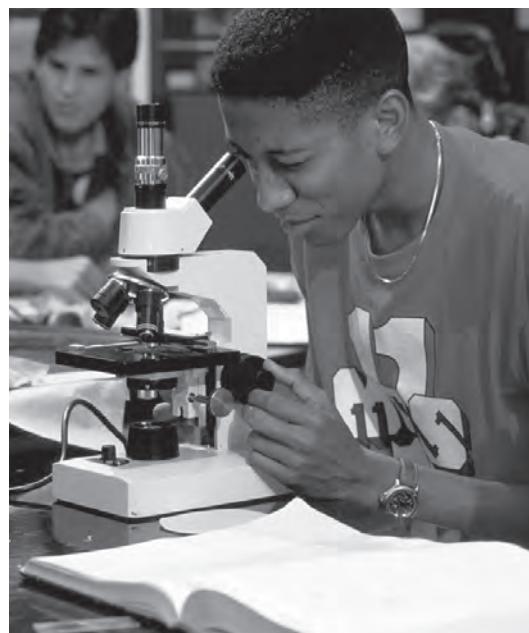
From time to time, there are still small outbreaks of plague in Asia. In the United States, hospitals treat a few infected individuals each year, mostly those who have been near infected rodents in the wild. Although we must always be **vigilant** about a serious epidemic, the chances of its happening are **slight**.

Plague research has taken great **strides** in the last century. Nowadays, scientists know the disease's cause and how it spreads. That knowledge has enabled them to develop vaccines to make people immune to the disease and antibiotics to treat it. Everywhere, governments and health workers have sought to eliminate rats and the conditions in which they thrive.

vigilant, very aware

slight, small in amount

strides, improvements



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From Outbreak: Plagues That Changed History by Bryn Barnard

Great epidemics, like wars, natural disasters, and other catastrophes, can expose the fragility of human society. Given enough stress, what seems the most solid and immobile social system can shatter. Such was the case in fourteenth-century Europe, a frozen society built on vast inequality and limited social mobility. For nearly a thousand years, Europeans were held in the rigid, unyielding grip of two interconnected forces: the **feudal aristocracy** and the Catholic Church. A third group, the knights, enforced their will. These power centers controlled all the wealth, owned all the land, determined all the laws, and were gatekeepers of all knowledge. They ruled over a body of ill-paid, ill-housed, illiterate peasant serfs, who did the work. Compared to competing regions like the **inquisitive** and inventive realm of **golden age Islam** or the continent-spanning empire of the **Mongols**, Europe was a **Podunk backwater**.

feudal aristocracy, highest social class in a system that existed in the Middle Ages
inquisitive, interested in a lot of different things
realm of golden age Islam, explosion of science and culture
Mongols, members of nomadic tribes of Mongolia
Podunk backwater, a situation regarded as stagnant and backward

Reading Strategy: Analyze Different Kinds of Texts

Underline the title of the article that begins on this page. How do you think it will be similar to the article you have just read? How will it be different?



Comprehension Check

Circle the text that tells the three forces that controlled medieval Europe. What does the author mean by calling medieval society "frozen"?



Text Structure

Social studies texts often include highlighted terms. Their definitions appear at the bottom of the page. Draw a box around the second term on this page. Look at the definition. Then use the word in a new sentence.





Text Structure

Social studies articles often include important dates in world history. Circle the year that appears on this page. What happened at that time?



Comprehension Check

Underline the sentence that tells what happened to prices after the plague. What are two other ways that the plague changed Europe's economy?



1. _____
2. _____

Reading Strategy: Analyze Different Kinds of Texts

Underline the sentence that tells how the plague affected the Catholic Church. Would this information most likely be included in a science article about the plague? Why or why not?



The arrival in 1346 of a new disease changed this situation. Arcing across Europe from the Mediterranean to Scandinavia, the epidemic caused victims to become feverish and grow painful black welts that exuded a nauseating stench. Half who were sickened by the illness died. Europeans called it the Great Mortality, the Pestilence, and the Pest. We call it the Black Death. In four years, it destroyed a third of Europe's population. Afterward, nothing in Europe was quite the same. The entire structure of European society became porous, more mobile. With fewer workers, wages went up. With fewer consumers, prices went down. In both the countryside and the cities, a rising middle class was able to accumulate, at bargain prices, the land, businesses, and wealth the dead had left behind. This economic revolution in turn sparked other changes: in law (to make sense of the new order), in the arts (to reflect on the horror and to show off the new money), and in trade (to accumulate even more).

In the Church, the catastrophe smashed an ossified orthodoxy, leading to questions, inventions, heresy, wars, and ultimately a world with not one Christianity but many. Finally, in the world of the nobility, the social, economic, and political crises caused by the Black Death were blows from which the ruling classes never fully recovered. Bit by bit, their power seeped away to others, never to return.

exuded, gave off steadily
ossified orthodoxy, rigid adherence to traditional religious practices
heresy, a belief that disagrees with the official principles of a particular religion

What was the Black Death? The most common explanation for the epidemic is bubonic plague, a disease passed to people by rodents. Historically, plague had been confined to populations of rats in isolated mountain regions, one in South Asia and the other in East Africa. When human activities like war and trade disturbed these ancient reservoirs, the plague escaped its natural confines.

The devastating Justinian's Plague that hit the Mediterranean in 542 c.e. was likely bubonic, imported by Roman soldiers returning from Ethiopia. The Roman Empire never recovered, and European power shifted north; a century later, Islam became the predominant civilization of the eastern Mediterranean. The World Health Organization calls this the first plague pandemic. The Black Death was the beginning of the second. In all, the second pandemic lasted over three hundred years. Plague returned several times in the 1500s, struck London in the Great Plague of 1664–66, and finally sputtered out in the 1750s.

reservoirs, large amounts of something that have not been used
confines, limits or borders

Choose one and complete:

1. Write a short play about one family's experience during the time of the Black Death. Use the Internet or encyclopedias to find more details for your play.
2. Make a brochure to warn people about some of the diseases that rats spread.
3. Using atlases and history books, research the path that the plague of the 1300s took across Asia and Europe. Create a map that shows that movement.

Comprehension Check

Underline the text that tells the things people engage in that helped spread plague. How do you think those two things helped spread plague from Asia and Africa into Europe?



Comprehension Check

Underline the sentence that tells when Justinian's Plague took place. Why do you think the author included this information in the conclusion of this article?

Reading Strategy: Analyze Different Kinds of Texts

Circle the sentence that tells how long the Black Death lasted. When did it finally end in Europe? How does this information compare to the date given for the end of the plague in the first article you read?





READING WRAP-UP

Retell It!

If you could go back in time to explain to a doctor in the 1300s what caused the plague and how it spread, what would you say?

Reader's Response

Do you think there were any positive results or outcomes for European society as a result of the plague? Why or why not?

Think About the Skill

How did analyzing different kinds of texts help you better understand these two articles?



EDIT FOR MEANING

You have read a selection from *Oh, Rats!: The Story of Rats and People*. Now read one paragraph from it again.

From *Oh, Rats!: The Story of Rats and People*

When poisons given off by the bacillus start killing an infected rat, its body temperature drops. This tells the resident fleas to move on. The first sign of a coming outbreak of plague is hundreds of dying rats staggering out of their burrows. If fleas cannot find another rat, they go after other mammals. If people are nearby, they will bite them. Eventually, the bacillus kills the fleas, too.



Fix the Error

Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so the information is correct.

1. Find and fix the error.

From *Oh, Rats!: The Story of Rats and People*

When poisons from the bacillus start killing an infected rat, its body temperature increases until it has a serious fever. The fleas then move to a different rat, and another and another. When hundreds of dying rats leave their burrows, that is the first sign a plague is coming. If infected fleas can't find another rat, they bite other animals—including people. Eventually, the bacillus kills the fleas, too.

2. Find and fix the error.

From *Oh, Rats!: The Story of Rats and People*

The poisons given off by a bacillus begin to kill an infected rat. Its body temperature drops. That is a sign that tells the fleas it is time to move to another rat. After a while, crowds of rats become infected. When they stagger out of their burrows close to death, it is the first sign that the plague has ended. Fleas search for a new rat, but if they can't find one, they go after other mammals. Sooner or later, the bacillus kills the fleas.

FOCUS on DETAILS

Word Search Puzzle

To complete this word search puzzle, you'll need to remember or search for details in the reading. Write the word from the text next to each clue. Then circle the answers in the puzzle below.

1. This organism reproduces by dividing into identical individuals: _____
2. Rats bitten by fleas helped spread this disease: _____
3. Infected fleas can pass on these organisms known as *Yersinia pestis*: _____
4. Swollen glands in the neck and armpits: _____
5. The name for workers in the Middle Ages: _____
6. Medicine that makes people immune to disease: _____
7. Minute life-forms that flow beneath Earth's surface: _____
8. Today, the chances of catching the plague during this are slight: _____
9. This group enforced the will of the church and the aristocracy: _____
10. The disease that killed millions of Europeans in the 1300s was called: _____

B	W	E	I	H	T	C	A	P	V	D	H	M	R	M
N	A	Y	U	E	I	W	A	A	A	S	J	S	I	I
P	J	C	H	G	I	C	M	V	C	T	K	I	E	C
L	N	S	I	T	C	B	N	C	C	H	I	N	T	R
A	U	O	V	L	U	L	I	U	I	G	H	B	W	O
G	C	C	Y	B	L	M	P	Q	N	O	Y	G	D	O
U	W	V	O	S	E	U	F	B	E	N	M	R	M	R
E	G	N	F	D	R	F	S	W	E	K	N	O	C	G
R	I	R	I	B	A	C	T	E	R	I	A	X	M	A
C	E	P	S	E	O	B	Z	B	F	A	F	R	R	N
S	E	A	T	O	G	G	Y	R	A	U	A	C	S	I
K	D	I	D	A	X	Z	W	K	I	C	M	I	E	S
L	C	P	L	A	P	Q	E	R	I	R	O	M	I	M
O	I	S	B	L	A	C	K	D	E	A	T	H	K	S
K	N	I	G	H	T	S	A	B	U	B	O	E	S	F

READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.
2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.
3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.
4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.
5. Write down any words that slowed you down. Practice saying these words out loud.
6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

From *Outbreak: Plagues That Changed History*

What was the Black Death? The most common explanation for the epidemic is bubonic plague, a disease passed to people by rodents. Historically, plague had been confined to populations of rats in isolated mountain regions, one in South Asia and the other in East Africa. When human activities like war and trade disturbed these ancient reservoirs, the plague escaped its natural confines. The devastating Justinian's Plague that hit the Mediterranean in 542 c.e. was likely bubonic, imported by Roman soldiers returning from Ethiopia. The Roman Empire never recovered, and European power shifted north; a century later, Islam became the predominant civilization of the eastern Mediterranean. The World Health Organization calls this the first plague pandemic. The Black Death was the beginning of the second. In all, the second pandemic lasted over three hundred years. Plague returned several times in the 1500s, struck London in the Great Plague of 1664–66, and finally sputtered out in the 1750s.



Do things really change?

From *Top Secret: A Handbook of Codes, Ciphers, and Secret Writing*

SUMMARY

This social studies article tells how people throughout history have tried to communicate secret information. The article describes two methods. In the first technique, people physically hid the information. For example, people hid a message under wax or in the sole of a shoe. In the second technique, people hid the message within another message. For example, people wrote the message with a special ink that can only be read after a chemical is added. The article explains how you can make your own invisible ink using common items at home.

Visual Summary

Ways To Hide A Secret Message	
Physically Hiding the Message	Hiding the Message within Another Message
Place it inside or under an object.	Write it using special ink. Invisible inks can be organic or chemical.
Greek generals concealed messages on servants' heads or under wax.	A Royalist was saved during England's Civil War by a message concealed in a letter.
Roman generals sometimes put secret messages on bandages or inside the soles of sandals.	During World War II, spies placed secret messages in orders for cigars or in knitting instructions.



Use What You Know

List two things you know about secret codes.

1. _____

2. _____

Text Structure

Introductions can help readers to understand the topic of a social studies article. Draw a box around the introduction on this page. What do you think this article will be about?



Reading Strategy: Identify Main Ideas

Identifying the main idea of a paragraph can help readers to understand the author's main points. Underline the sentence that tells the main idea in the second paragraph. Then rewrite the main idea in your own words.



From *Top Secret: A Handbook of Codes, Ciphers, and Secret Writing* by Paul B. Janeczko

As long as people have had secrets, they have developed many ingenious and devious ways of keeping secrets from one another. The ancient Greeks had a word for it: steganography. This term comes from the words *stegano*, meaning "covered," and *graphein*, meaning "to write." Concealment tactics fall into two categories: physically hiding a message in some way and concealing the secret message within another message.

Early Concealment Techniques

Concealment started with the ancient Greeks. In battles between the two powerful city-states of Athens and Sparta, both sides were always looking for the strategic advantage in battle. Part of that advantage came through good intelligence. But good intelligence doesn't do you much good if you cannot send it and receive it without your enemy finding out your plans should your message be intercepted. So, as they say, necessity was the mother of invention, and several concealment tactics were born.

ingenious, clever
concealment, carefully hiding things



Herodotus, the ancient Greek historian who became known as the Father of History, tells of one general, Histiaeus, who used his servants as messengers, but not in the sense of simply carrying a secret message in the usual manner. The general shaved the head of a servant and tattooed the message on his skull. When the servant's hair grew in, he was sent on his way, the message safely concealed beneath a healthy head of hair.

Another master that Herodotus described wasn't nearly as kind to his servants when he wanted to send sensitive military information to his generals. He found a servant who complained of poor eyesight and promised him a solution to his problem. He shaved the slave's head, then branded a message on his scalp! When the hair grew in, the master told the servant that his eyesight would be better when he had his head shaved at a camp some miles away.

Another general, Demaratus, who was exiled in Persia, used more humane methods of concealment. He carved a message in a plank of wood, then covered the message with wax. When the wax was melted, the message was revealed.

branded, burned a mark onto skin
exiled, forced to leave one's country

Comprehension Check

Underline the text that tells what technique General Histiaeus used to put a message on a servant. What might be some drawbacks of that method?



Reading Strategy: Identify Main Ideas

Circle the sentence that contains the main idea of the second paragraph. Why do you think the master tricked a servant to attain his goal?



Comprehension Check

Underline the passage that describes how General Demaratus concealed his messages. Do you think that was a good method? Why or why not?





Comprehension Check

Underline the sentence that describes how the Romans used injured soldiers to send messages. Do you think the message would remain hidden there? Why or why not?



Text Structure

Social studies articles often include headings. A heading can signal a change in the topic. Draw a box around the heading on this page. What do you think this next section will be about?



Comprehension Check

Underline the war mentioned on this page. List the two sides that fought in this war. On which side was Sir John Trevanion?



1. _____

2. _____

The Romans had a few concealment tricks of their own. Tacitus, the Roman historian, told of battlefield generals who would dress the wound of an injured soldier with a bandage that contained a secret message. Another trick they used was sewing a message into the sole of a sandal and sending its owner on his way, bearing the secret.

The Cipher That Saved a Life

In the seventeenth century, during England's Civil War, the Puritans captured Sir John Trevanion, a Royalist, and were holding him in a castle in Colchester, a city not too far from London. More than likely, Trevanion was beginning to sweat because he knew that two of his comrades had already made the long walk to the gallows.

Things indeed looked **grim** for Sir John, when he received a message from a friend.

gallows, structure used for killing criminals by hanging them from a rope

grim, very serious



Worthie Sir John:

Hope, that ye beste comfort of ye afflicted, cannot much, I fear me, help you now. That I would say to you, is this only: if ever I may be able to requite that I do owe you, stand not upon asking me. 'Tis not much I can do: but what I can do, bee ye verie sure I wille. I knowe that, if dethe comes, if ordinary men fear it, it frights not you, accounting it for a high honour, to have such a rewarde of your loyalty. Pray yet that you may be spared this soe bitter, cup. I fear not that you will grudge any sufferings; only if bie submissions you can turn them away, 'tis the part of a wise man. Tell me, an if you can, to do for you anythinge that you wolde have done. The general goes back on Wednesday. Restinge your servant to command.

R.T.

Sir John's jailers didn't know who R.T. was—indeed, his identity is lost to history—but they found nothing suspicious in the letter and delivered it to the prisoner. Sir John, however, took immediate relief in the message because he knew a secret message was concealed within the letters of this letter. If you circle the third letter after each punctuation mark—the system agreed upon by Sir John and his friends—you will find the message that pleased the prisoner so much: PANEL AT EAST END OF CHAPEL SLIDES.

Text Structure

Social studies articles often contain quotes or excerpts from historical documents. Circle the text from a historical document on this page. Why do you think the author included it in the article?



Comprehension Check

Circle the text that tells who sent Sir John this letter. What do we know about the letter writer? What guesses can you make about him?



Comprehension Check

Underline the letters that spell out the word *panel* in R.T.'s note to Sir John. Then use the same code to write a new passage that contains the secret message "key."





Comprehension Check

Underline the text that tells how a spy disguised her secret message during World War II. Do you think it is harder to hide a message or to find a message that has been hidden? Why?



Reading Strategy: Identify Main Idea

Underline the sentence that tells the main idea of the second paragraph. Why is it important to send secret messages during wartime?



Comprehension Check

Underline the sentence that tells how a spy sent secret messages about the U.S. Navy. How did a U.S. agent catch the spy?



Just as no one questioned the letter Sir John received, no one questioned his request to spend time in quiet prayer in the chapel. After an hour, his jailer finally entered the chapel to check on the prisoner. Sir John was long gone through the secret escape panel.

Tales of Concealment

During World War II, invisible ink was one of the methods of concealment used by spies. As you might suspect, some of their other methods were quite ingenious. During World War II, intelligence agencies had to be on alert at all times for letters and phone messages that may have included concealed messages. There is evidence of one secret agent who disguised her message as knitting instructions! Another spy, who was watching U.S. Navy activity, cabled his numbers disguised as an order for cigars from a tobacco retailer. He was successful with his concealment until a savvy U.S. agent realized that he was ordering an extraordinary number of cigars. When agents confronted him, he quickly admitted his treachery.

savvy, knowledgeable
treachery, actions that are not loyal to someone who trusts
you

Invisible Inks

Just like many other code and cipher techniques and systems, the use of invisible inks can be traced to ancient times. There are records that the Greeks and the Romans used invisible inks from plants and nuts. For example, Pliny the Elder, a Roman naturalist, used the “milk” of the thithymallus plant as an invisible ink. Since then, of course, invisible inks have become more sophisticated, though not nearly as popular as during the Middle Ages and the Renaissance. Nevertheless, they have played a part in times of war.

There are two kinds of invisible inks. Some chemicals can be used as invisible inks, but they can be dangerous to use. These chemicals become invisible when they dry. Then they are “developed” with another chemical. This developing chemical is called a reagent. It could be something like iodine vapor or ammonia fumes. The other kind of invisible ink is organic, something easily obtained in nature. Believe it or not, onion juice and vinegar both make good invisible inks. These organic inks are developed by heat.

naturalist, someone who studies plants or animals

Reading Strategy: Identify Main Ideas

Underline the sentence that gives the main idea of the first paragraph. Then list three details that support the main idea.



1. _____
2. _____
3. _____

Comprehension Check

Underline what the text says is the biggest drawback to chemical invisible inks. Why do you think they might be used anyway?



Text Structure

Social studies texts often define key terms within the text. Circle the definition of *organic*. What are two examples of organic materials mentioned in the text?



1. _____
2. _____



Comprehension Check

Underline the text that tells why a paintbrush makes a good “pen” for invisible ink. Why might you want to write a message in invisible ink?



Text Structure

Social studies articles sometimes contain instructions on how to complete a task.



Those instructions can include a listing of any equipment you need for your project. Underline the kinds of containers you can use to store your invisible ink. Then list two other pieces of equipment you need to write with invisible ink.

1. _____
2. _____

Comprehension Check

Underline the sentence that tells what you might need to do with inks made out of juice. How does water help?



Making Your Own Invisible Inks

First of all, you will need some equipment. To write with your ink, you can use a quill (made by cutting the tip off of a feather), toothpicks, or a small brush, the kind you use for model painting or watercolors. While it takes some practice to write with a paintbrush, it does make a good “pen” for invisible ink. It will not leave indentations in the paper, a sure giveaway of your invisible secret. You might want to gather a few small jars to keep your ink in. Baby food jars or 35mm film canisters work well. You will want a fibrous paper, like school composition paper. Glossy paper won’t absorb the ink. All of this equipment can be stored in your field kit.

Once you have your equipment, you can start working on your inks. Here are a few liquids that make good invisible inks: apple juice, citrus juice (lemon, orange), onion juice (it might take a few tears to mash enough onion to get some ink, but it works well!), vinegar, sugar or honey, salt or Epsom salts or baking soda.

You will need to experiment, particularly with the inks that require you to dissolve something in water. The juice inks may need to be diluted a bit if you can see their color on the paper.

There are other invisible inks. Cola drinks (not diet drinks because it is the sugar that makes the ink work) make good invisible inks. You'll need to dilute them so the brown color doesn't show your message.

When you write your message with one of these inks, it will become invisible once dry. To develop the ink, you need to put direct heat on the message. You can use a hair dryer, a small heater, an iron on a low setting, or a light bulb, about 150 watts or so. **Be careful when you use heat to develop your message.** You can get burned by any of these heat sources. If you use a light bulb or a heater, keep your message five or six inches away from the heat. Just give the heat time to work. If you iron your message, check constantly to make sure it isn't getting too hot.

Comprehension Check

Draw a box around the ingredient in cola that makes it a good ink. Will diet cola work? Why or why not?



Text Structure

Underline the warning in the second paragraph. Do you think it was important to include this warning? Why or why not?



Comprehension Check

Circle the sentence that explains why it is important to check your message if you use an iron. Then list three other sources of heat you could use to read a message written in invisible ink.



1. _____
2. _____
3. _____



Reading Strategy: Identify Main Ideas

Underline the sentence that contains the main idea on this page. How did you decide what the main idea was?

Comprehension Check

Circle the text that tells what people leave behind when they press down very hard while writing. List two ways you could read this kind of invisible message.



1. _____
2. _____

Text Structure

Social studies textbooks often include highlighted terms. Their definitions appear at the bottom of the page. Draw a box around the second term on this page. Look at the definition. Then rewrite the definition in your own words.



Here are a couple of other invisible ink tricks: You can use milk as an invisible ink. Instead of developing it with heat, rub some ashes across it. The message will appear. Have you ever noticed when you press down very hard with a pencil or pen, you leave indentations in the next sheet of paper? Well, that could be a sort of invisible message. I would send the sheet that is two or three sheets beneath the one you wrote on. The indentations won't be as obvious. To "develop" such a message, rub the side of a pencil point across the message. You can also shine a light on the paper. Slant the light and you should be able to see the message. A message written with starch will be invisible in daylight or electric light. However, it will become visible when placed under fluorescent light or ultraviolet light. You might need to see if a science teacher can help you find an ultraviolet light at school.

fluorescent light, very bright light from a gas-filled tube
ultraviolet light, beyond the purple end of the range of colors that people can see

Use your invisible inks in a way that works best for you. One of the drawbacks of invisible ink is that you cannot send a lot of information. Why? You need to find a way to hide all that information. In other words, if you are writing two pages of spy intelligence, you cannot simply send two blank pages. That will immediately draw close examination should it fall into unfriendly hands. Some spies wrote their invisible ink messages between the lines of a real letter. Others wrote the secret messages on the other side of the real letter. You could also put a dot of invisible ink over each letter in a newspaper article. When taken in order, the letters will spell out your message.

Choose one and complete:

1. Using the Internet or other resources, do research to learn more about secret codes. Make a poster demonstrating at least one secret code. Share it with your class.
2. Write a script in which spies have to send a secret message to each other or a scene that shows someone deciphering a secret message.
3. Try making one of the invisible inks that are mentioned in this article and exchanging messages with a classmate.

Comprehension Check

Circle the two ways that spies used letters to send secret messages. Do you think that was a good method to use? Why or why not?

**Reading Strategy:
Identify Main Ideas**

Underline the sentence that contains the main idea on this page. Then rewrite the main idea in your own words.

Comprehension Check

Underline the passage that describes a way to send a secret message using a newspaper. Can you think of one way to send a secret message using new technology?





READING WRAP-UP

Retell It!

Imagine you are teaching a class of intelligence agents about the history of secret communications. Write down what you would tell the class.

Reader's Response

Would you like to be an intelligence agent? Why or why not?

Think About the Skill

How did identifying the main idea help you better understand the article?



EDIT FOR MEANING

Read

You have read a selection from *Top Secret: A Handbook of Codes, Ciphers, and Secret Writing*. Now read one paragraph from it again.

Invisible Inks

There are two kinds of invisible inks. Some chemicals can be used as invisible inks, but they can be dangerous to use. These chemicals become invisible when they dry. Then they are “developed” with another chemical. This developing chemical is called a reagent. It could be something like iodine vapor or ammonia fumes. The other kind of invisible ink is organic, something easily obtained in nature. Believe it or not, onion juice and vinegar both make good invisible inks. These organic inks are developed by heat.



Fix the Error

Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so the information is correct.

1. Find and fix the error.

Invisible Inks

Basically, there are two different kinds of invisible ink. Some chemicals can be used as invisible inks, but they have a big drawback. They can be dangerous to use. These chemicals are very visible when they dry. They are “developed” with a different chemical, which is called a reagent. Two examples of developing chemicals are iodine vapor and ammonia fumes. Other kinds of invisible ink are made from organic materials. Organic means it’s easily found in nature. You may be surprised to hear it, but onion juice and vinegar don’t just smell bad, they make good invisible inks!! You don’t use a reagent like ammonia vapors to develop them, though. All you need is heat.

2. Find and fix the error.

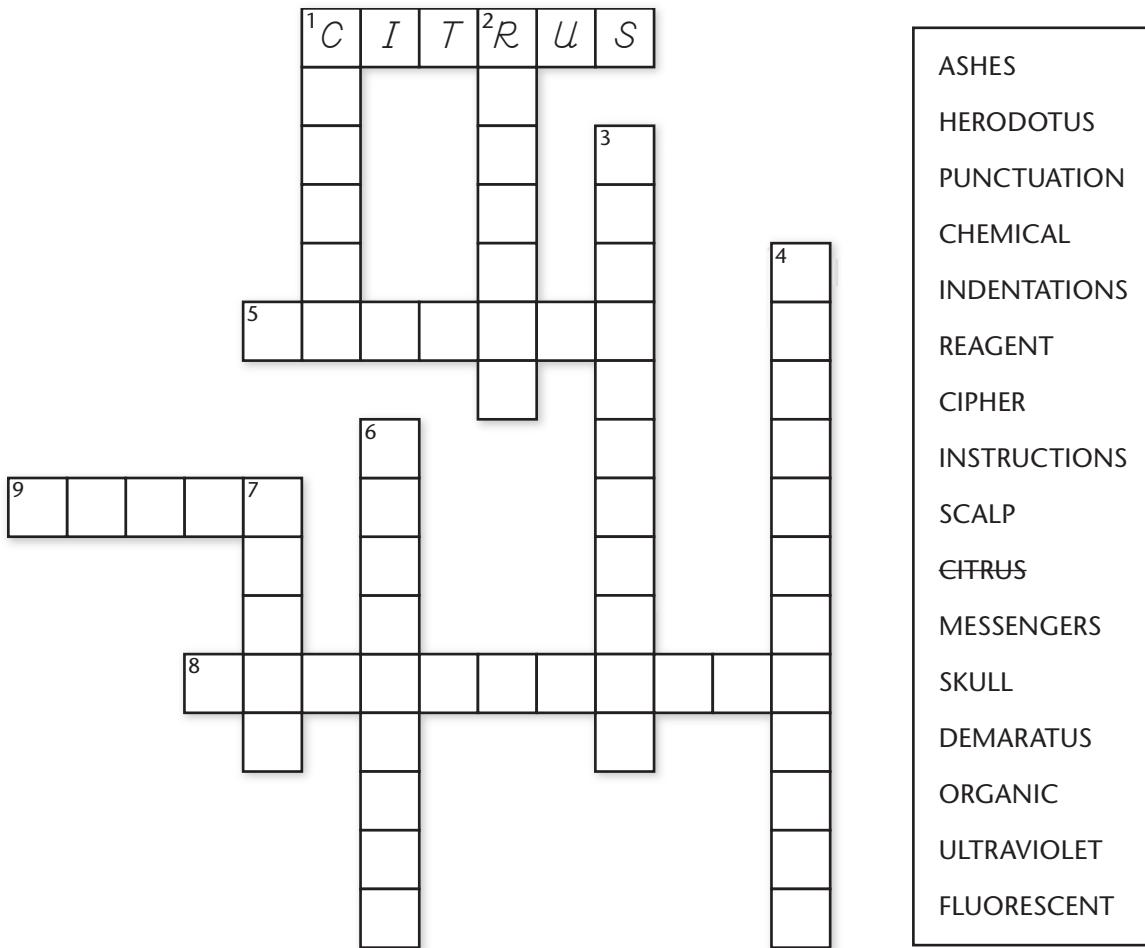
Invisible Inks

There are two main kinds of invisible inks. The first kind is chemical ink. You have to be careful with those kinds of inks, because they can be dangerous to use. These chemicals become invisible after they dry, but then they’re “developed” with another chemical, called a reagent. Two kinds of reagents are iodine vapor and ammonia fumes. The other kind of invisible ink is organic ink. Organic means something you could find in nature. You may not believe this, but you can use onion juice and vinegar to make great invisible inks. These organic inks are developed by placing them against something cold.

FOCUS ON DETAILS

Crossword Puzzle

To complete this crossword puzzle, you'll need to remember or search for details in the reading. Use the words in the word box to help you. Not all of the words in the word box are in the puzzle. Fill in the crossword with answers to the clues below.



Across

1. This kind of fruit includes lemons and oranges.
 5. Something easily obtained in nature
 8. Messages written in starch can be seen with this kind of light.
 9. You need these to read messages written in milk.

Down

1. A secret message in code
 2. Something that “develops” invisible ink
 3. Sir John used these kinds of marks to read a hidden message.
 4. Writing a message with a brush won’t leave these behind.
 5. This Greek general hid messages in a plank of wood.
 6. Histiaeus wrote messages on this part of a servant’s body.

READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.
2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.
3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.
4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.
5. Write down any words that slowed you down. Practice saying these words out loud.
6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

Tales of Concealment

During World War II, invisible ink was one of the methods of concealment used by spies. As you might suspect, some of their other methods were quite ingenious. During World War II, intelligence agencies had to be on alert at all times for letters and phone messages that may have included concealed messages. There is evidence of one secret agent who disguised her message as knitting instructions! Another spy, who was watching U.S. Navy activity, cabled his numbers disguised as an order for cigars from a tobacco retailer. He was successful with his concealment until a savvy U.S. agent realized that he was ordering an extraordinary number of cigars. When agents confronted him, he quickly admitted his treachery.

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