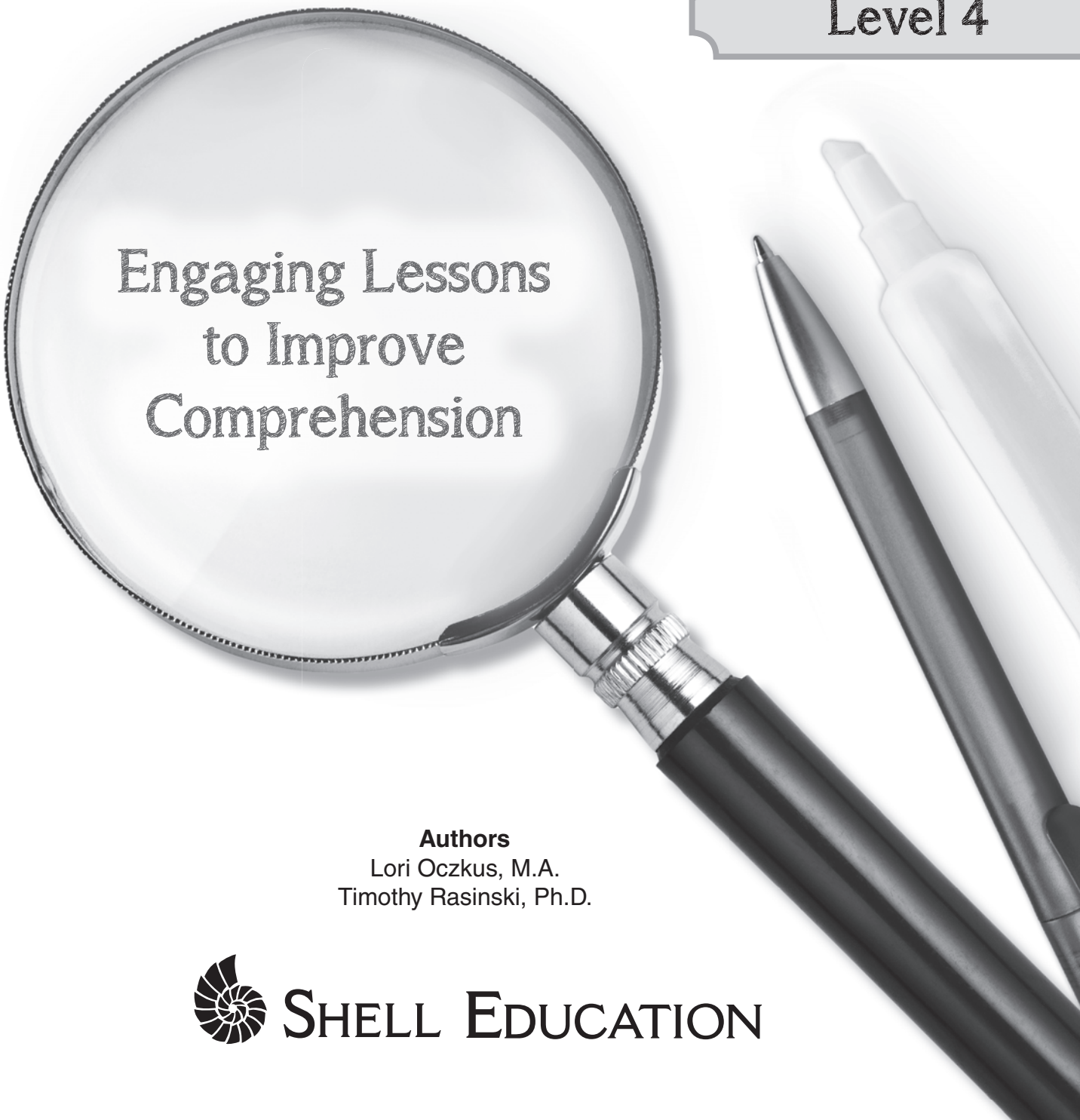
Close Reading with Paired Texts

Level 4



Engaging Lessons to Improve Comprehension

Authors
Lori Oczkus, M.A.
Timothy Rasinski, Ph.D.

Shell Education

Name: _____ Date: _____

Baseball's Beginnings

Take a bat, a ball, a glove, and a warm summer day. Put them all together, and you've got the great game of baseball!

But baseball hasn't always existed. Who invented the game? Who wrote the rules? As far as we know, games with sticks, balls, and bases have been played for centuries. Baseball seems to have grown naturally from these games. It wasn't invented by just one person. Many people think that it came from the two British games called rounders and cricket. As early as the 1700s, people were playing some form of these games.

People today usually think that Abner Doubleday invented baseball. It's no wonder. After Doubleday died, a man named Abner Graves claimed he saw Doubleday invent the game in 1839. He said that Doubleday made the first baseball diamond in a field in Cooperstown, New York. The trouble is that Doubleday was a cadet at West Point military academy in 1839. He was not in Cooperstown, and he didn't have time for baseball. Also, Doubleday left many journals when he died. He doesn't mention baseball in any of them. A 1911 encyclopedia article about Doubleday doesn't mention baseball, either. A man named Alexander Cartwright is the one who probably did all the things Doubleday was given credit for.

Of course, to be a real game that everyone can play in the same way wherever they go, there must be standard rules. In 1845, an amateur team in New York decided to write the rules of baseball. And that's where the rest of baseball's history begins.

In 1842, a group called the New York Knickerbockers started getting together to play baseball. They were young professionals who liked to play the game. In 1845, they formed the Knickerbocker Baseball Club and decided to write the rules for baseball. Led by Daniel L. "Doc" Adams, they wrote down the rules. This allowed everyone who played baseball to play the game in the same way.

© Shell Education

Baseball's Beginnings *(cont.)*

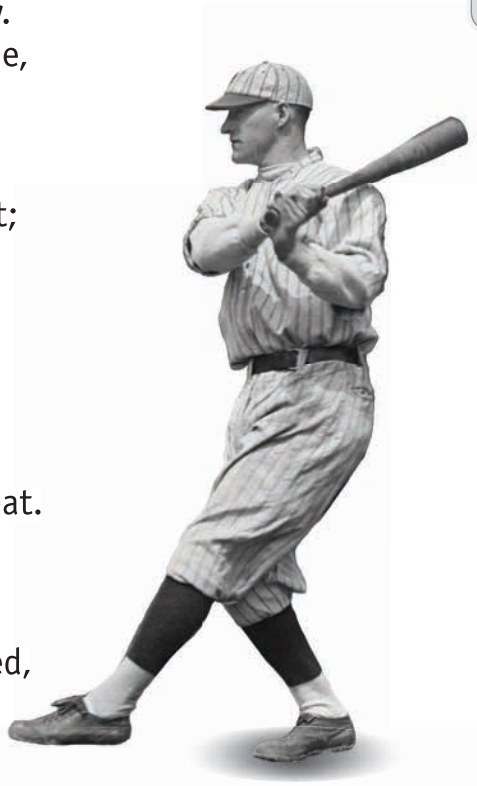
The earliest rules for baseball included two teams of nine players each. They played on a baseball square with a base at each corner. The batter's base was called home. Bats could be any size or shape. The batter was out with three strikes or if the hit ball was caught with one or no bounces. There were three outs for each side in an inning. Runners could be tagged or forced out. Each team got an equal number of turns at bat. The winning team was the first to score 21 aces, the original name for runs. Later, an umpire was named as the judge during play.

Over time, the rules for baseball have changed a bit. Safety is very important, so officials study new bats, balls, and helmets to make sure they are safe. They also work hard to make the game fair to all players. The rules of baseball are still changing today!

Casey at the Bat

Adapted from a piece by Ernest Lawrence Thayer

The outlook wasn't brilliant for the Mudville nine that day;
The score stood four to two with but one inning more to play.
And then when Cooney died at first, and Barrows did the same,
A sickly silence fell upon the patrons of the game.



A straggling few got up to go in deep despair. The rest
Clung to that hope which springs eternal in the human breast;
They thought if only Casey could but get a whack at that—
We'd put up even more money now with Casey at the bat.

But Flynn preceded Casey, as did also Jimmy Blake,
And the former was a lulu and the latter was a cake;
So upon that stricken multitude grim melancholy sat,
For there seemed but little chance of Casey's getting to the bat.

But Flynn let drive a single, to the wonderment of all,
And Blake, the much despised, tore the cover off the ball;
And when the dust had lifted, and men saw what had occurred,
There was Jimmy safe at second and Flynn a-hugging third.

Then from 5,000 throats and more there rose a lusty yell;
It rumbled through the valley, it rattled in the dell;
It knocked upon the mountain and recoiled upon the flat,
For Casey, mighty Casey, was advancing to the bat.

Ten thousand eyes were on him as he rubbed his hands with dirt;
Five thousand tongues applauded when he wiped them on his shirt.
Then while the writhing pitcher ground the ball into his hip,
Defiance gleamed in Casey's eye, a sneer curled Casey's lip.

And now the leather-covered sphere came hurtling through the air,
And Casey stood a-watching it in haughty grandeur there.
Close by the sturdy batsman the ball unheeded sped—
"That ain't my style," said Casey. "Strike one," the umpire said.

With a smile of Christian charity great Casey's visage shone;
He stilled the rising tumult; he bade the game go on;
He signaled to the pitcher, and once more the spheroid flew;
But Casey still ignored it, and the umpire said, "Strike two."

Name: _____ Date: _____

Casey at the Bat (cont.)

The sneer is gone from Casey's lip, his teeth are clenched in hate;
He pounds with cruel violence his bat upon the plate.
And now the pitcher holds the ball, and now he lets it go,
And now the air is shattered by the force of Casey's blow.

Oh, somewhere in this favored land the sun is shining bright;
The band is playing somewhere, and somewhere hearts are light,
And somewhere men are laughing, and somewhere children shout;
But there is no joy in Mudville—mighty Casey has struck out.

© Shell Education

European Immigration

Adapted from a piece by Debra J. Housel

Life was rough for many people living in Europe during the late 1800s and early 1900s. The environment was overcrowded and poor; desperate people couldn't find jobs. Some people were harassed because of their beliefs. Wars were ruining lives and land. So, millions of people left Europe. Many people sold all they owned to buy ship tickets. Then, they immigrated to the United States.

About 27 million immigrants arrived in America between 1870 and 1916. Most came from Europe. These people thought that they would have better lives. This was not always the case.

Immigrants came on ships to Ellis Island. It's near the Statue of Liberty in New York Harbor. There, people had to pass medical tests. Inspectors rejected those who were ill, insane, or had been in prison. Most people spent about four hours in the station.

About two percent of the people were excluded. This meant that they could not enter the country. They had to get on ships and go back to where they came from. If a child was excluded, at least one parent had to leave, too. In this way, some families were split up. They sometimes never saw one another again.

Starting a new life was hard. Most immigrants lived in tenements. Greedy landlords owned these run-down buildings. The buildings lacked fresh air and sunlight. Up to 32 families might be crammed into each building. About 4,000 immigrants lived on each city block.

Finding work was easy. But, the pay was poor and the working conditions were horrible. Factory owners set up sweatshops. These dimly lit buildings had no windows. Sometimes, workers could not speak or use the bathroom. They were not given breaks. Most of the workers were women and children. But, they did not dare to complain. If they did not work, they had no money. They would go hungry.

Many immigrants arrived without a cent. The sweatshop owners exploited them. Business owners paid male immigrants less than other workers. Female immigrants earned even less.

Outside of the sweatshops, whole families worked in their apartments. They did piecework for pennies. Piecework included sewing seams or stitching small items together. The immigrants were paid for every piece they completed. They barely made enough to get by.

Name: _____ Date: _____

The New Colossus

By Emma Lazarus

Not like the brazen giant of Greek fame,
With conquering limbs astride from land to land;
Here at our sea-washed, sunset gates shall stand
A mighty woman with a torch, whose flame
Is the imprisoned lightning, and her name
Mother of Exiles. From her beacon-hand
Glows world-wide welcome; her mild eyes command
The air-bridged harbor that twin cities frame.
"Keep ancient lands, your storied pomp!" cries she
With silent lips. "Give me your tired, your poor,
Your huddled masses yearning to breathe free,
The wretched refuse of your teeming shore.
Send these, the homeless, tempest-tost to me,
I lift my lamp beside the golden door!"

© Shell Education

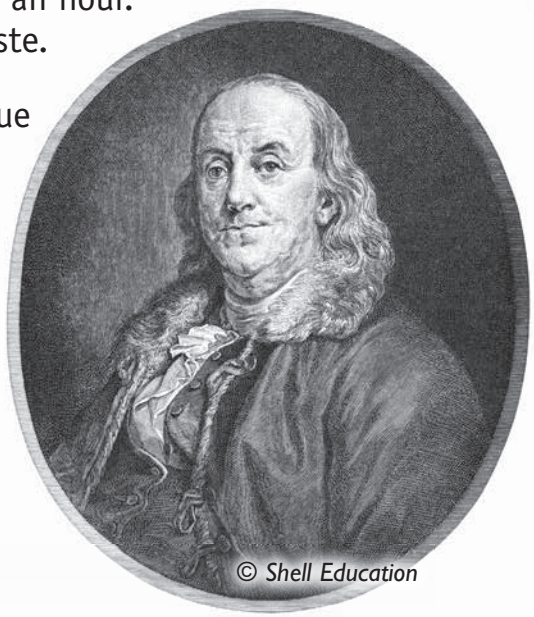
Name: _____ Date: _____

So Said Ben

Benjamin Franklin wrote his own epitaph when he was only 22 years old. He wanted the top of his tombstone to read: *B. Franklin, Printer*. Was this Franklin's greatest role? He must have thought so. He never changed his epitaph.

Although Franklin is remembered for the many documents and almanacs that he printed, he is also remembered as a diplomat, an inventor, an author, and a leader. Even today, Franklin's words are used to guide people as they make difficult decisions in their lives. The following quotations from Franklin have been studied and followed for hundreds of years.

- One today is worth two tomorrows.
- Never confuse motion with action.
- Either write something worth reading or do something worth writing.
- He that can have patience can have what he will.
- He that waits upon fortune is never sure of a dinner.
- He that rises late must trot all day.
- Lost time is never found again.
- Never leave that till tomorrow which you can do today.
- Remember not only to say the right thing in the right place, but far more difficult still, to leave unsaid the wrong thing at the tempting moment.
- Since thou are not sure of a minute, throw not away an hour. Take time for all things: great haste makes great waste.
- The Constitution only gives people the right to pursue happiness. You have to catch it yourself.



© Shell Education

Young Ben

Adapted from a piece by Melissa A. Settle

Narrator: Benjamin Franklin lived many years ago. Even though he became very well known for his inventions, his life did not start out that way.

Townsperson: Benjamin was the youngest son in a large family from Boston, Massachusetts. His father was a candle and soap maker.

Mr. Franklin: All of my boys were expected to be tradesmen like me.

Townsperson: But Ben was special. Even though he was only a young boy, we could all tell that he was smart.

Mr. Franklin: I wasn't sure what to do with Ben. I decided to send him to school to learn Latin. Maybe he would grow up to be a preacher.

Benjamin: At first, I didn't know if I would like moving away from my family to go to school. But, I loved it!

Mr. Franklin: After Ben finished his first year of school, I realized that sending him away to school was too expensive.

Townsperson: Mr. Franklin decided to send Ben to a local school where he would learn basic reading, writing, and math skills.

Narrator: At the end of two years, Benjamin's father said that he'd had enough school. When Benjamin turned 10, he began to work for his father.

Benjamin: For the next two years, I worked and learned about many different trades. When I turned 12, my father made me pick one trade to master.

Townsperson: Ben had to become an apprentice to someone until he turned 21. That would be nine years!

Benjamin: I liked learning about many different jobs. Nine years learning about one thing was going to be too boring.

Mr. Franklin: Ben was getting older. He needed to figure out what he was going to do with his life. I thought that becoming an apprentice would help him settle down.

Benjamin: Running errands for my dad helped me see how many wonderful things there were to learn about. I wanted to become a sailor and travel around the world.

Young Ben (*cont.*)

Narrator: Ben was afraid to tell his father that he didn't want to become an apprentice. Finally, Ben gave in to his father's wishes and decided to become an apprentice for his brother, James.

Townsperson: James was a printer in Boston. A printer is someone who writes and publishes things for people to read. Ben helped his brother set the type on the large printing press. He had to work very hard.

Mr. Franklin: I was happy that Ben decided to go to work for his brother. James would teach Ben many valuable lessons.

© Shell Education

Products, Factors, and Common Factors

Adapted from a piece by Lori Barker

Math shows how numbers relate to each other. We can see what numbers have in common. That can help to solve problems. It helps to know how to describe these relationships. It helps us speak and write about them. Think about multiplying two factors together. The product is a multiple of each of those factors. This may be a little confusing. Check out the terms below.

The **product** is the result of multiplying numbers together. In the problem $3 \times 7 = 21$, the number 21 is the product.

The numbers multiplied to get a product are called the **factors**. In the problem $5 \times 7 = 35$, the numbers 5 and 7 are both factors of 35.

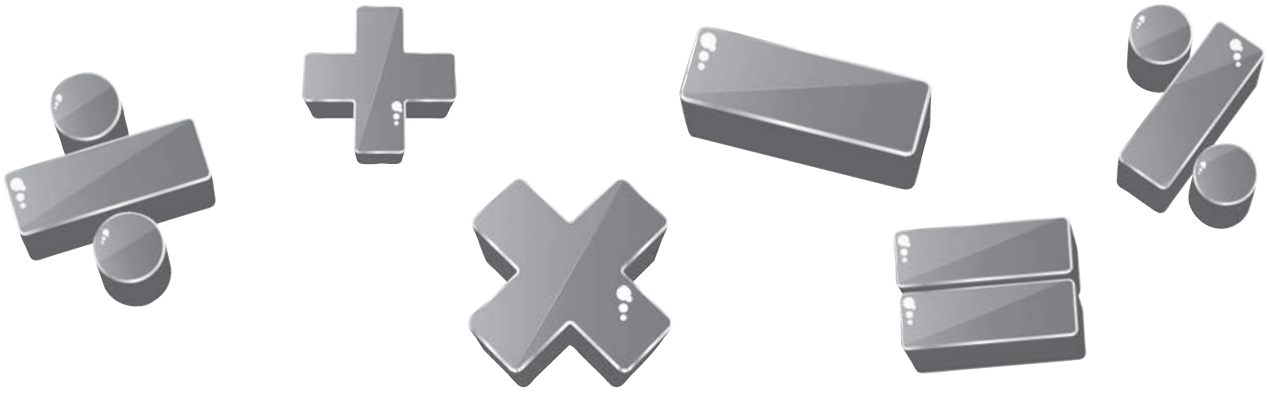
A number that is a factor for two or more products is their **common factor**. The number 5 is a common factor for 10 and 15 because $5 \times 2 = 10$ and $5 \times 3 = 15$.

The **greatest common factor** is the largest number that can be divided evenly into more than one number. The number 7 is the greatest common factor for 14 and 35 because 7 is the largest number that can be evenly divided into both numbers.

Each composite number can be written as the product of a set of prime numbers. This is the set of **prime factors** for that number. For instance, $30 = 2 \times 3 \times 5$, so the numbers 2, 3, and 5 are the prime factors of 30.

The product of two whole numbers is called a **multiple** of those numbers. For instance, $3 \times 1 = 3$, $3 \times 2 = 6$, $3 \times 3 = 9$, and $3 \times 4 = 12$, so the numbers 3, 6, 9, and 12 are all multiples of three.

The **least common multiple** is the smallest number that is a multiple of each of two or more numbers. The numbers 2, 3, and 4 have the least common multiple of 12. This is because 12 is the lowest number that is a multiple of each number.



Math in the Kitchen

I asked Grandpa if he would help me bake some bread for a school bake sale.

"Why don't we make my Famous Fruit Muffins instead?" Grandpa said.

"Great idea!" I said. "But you will need to help me. I haven't baked muffins before."

Grandpa said, "My recipe makes 12 dozen fruit muffins. That's 144 muffins."

"But we can't fit 144 muffins in our oven!" I said.

"Don't worry!" said Grandpa. "We'll just divide the recipe into batches. The 144 muffins divided by 3 batches equals 48 muffins in each batch."

"Great! We have 4 muffin tins that hold 12 muffins each, so that's perfect," I said.

First, Grandpa and I had to work out what ingredients we needed. Grandpa showed me the recipe for the Famous Fruit Muffins that he used to make at his bakery. This is the recipe that makes 144 muffins.

"But that recipe shows how many ingredients are needed to make 144 muffins," I said to Grandpa. "We can only make 48 muffins at a time."

"So what do we need to do?" Grandpa asked me.

"Well, the recipe makes 144 muffins. And I can only cook 48 at a time. We have already worked out that I can make 3 batches of 48 muffins," I said.

I thought for a little while. "That means we need to divide the ingredient amounts by 3, too!"

"Well done!" said Grandpa.

First, I wrote down the old amounts. Then, I divided them each by 3. I wrote down the new amounts needed to bake 48 muffins at a time.

While I was mixing, Grandpa got out the muffin tins. They were shaped like rectangles with three rows of four holes.

© Shell Education

Math in the Kitchen *(cont.)*

A little while later, Mom walked into the kitchen. "You have 48 muffins made," said Mom. "How many batches do you still need to cook?"

"There are still 2 batches to bake," I said. "Each batch has 48 muffins. So 2 multiplied by 48 equals 96 muffins still to bake!"

Mom laughed. "You had better keep baking," she said.

Name: _____ Date: _____

Shark Specs

Adapted from a piece by John Lockyer

When you think about the ocean, what animals do you think of? Perhaps you think of fish. If you do, then you could be thinking about sharks. Sharks are fish. There are about 350 different species of sharks in the world. Let's learn more about the whale shark and the great white shark.

The whale shark is the biggest fish in the world. It grows more than 40 feet (12 meters) long and can weigh up to 13 tons (11,793 kilograms). Whale sharks are slow swimmers. They have a top speed of 3 miles per hour (5 kilometers per hour).

Whale sharks swim with their mouths open. They suck in water that is filled with plankton and small fish. Whale sharks' mouths can be 5 feet (1.5 meters) wide. They can suck in over 1,500 gallons (6,000 liters) of water an hour.

Great white sharks are one of the most famous species of shark. Movies have even been made about them! Most great white sharks grow to between 12 and 20 feet (3.5 to 6 meters) long. That's about as long as a van.

Great white sharks are amazing hunters. They can reach speeds of 25 miles per hour (40 kilometers per hour) and can leap out of the water to catch their prey.

Scientists want to learn more about sharks. They do this in different ways. Some climb into cages and go in the water to film the sharks. Other scientists swim with sharks. They have to wear special diving suits to keep safe! These people help us learn more about these amazing fish.

Shark Measurements

Shark	Average length	Average weight
dwarf dogfish	6 in. (15 cm)	1.5 oz. (43 g)
bullhead shark	40 in. (1 m)	20 lbs. (9 kg)
angel shark	5 ft. (1.5 m)	66 lbs. (30 kg)
thresher shark	15 ft. (4.5 m)	350 lbs. (159 kg)
Greenland shark	20 ft. (6 m)	2,200 lbs. (998 kg)
great white shark	20 ft. (6 m)	7,000 lbs. (3,200 kg)
basking shark	33 ft. (10 m)	15,400 lbs. (6,985 kg)
whale shark	40 ft. (12 m)	28,700 lbs. (13,018 kg)

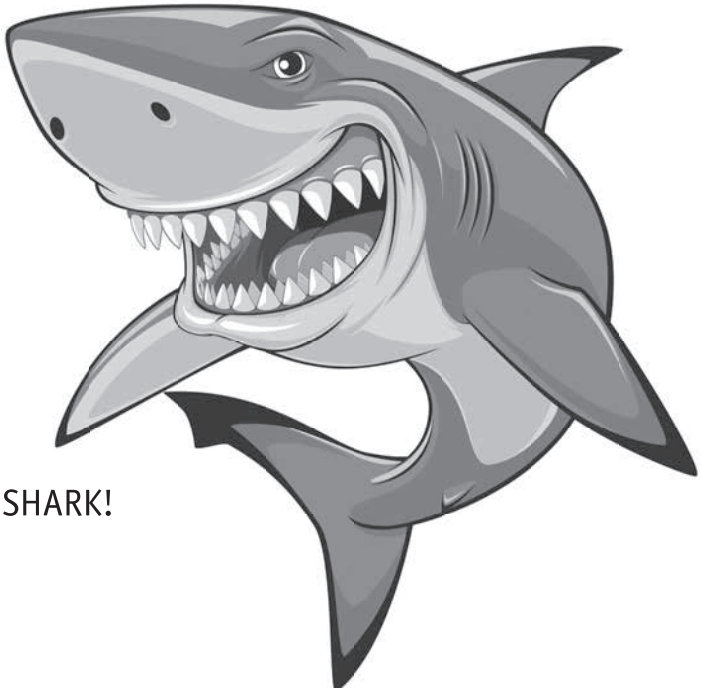
© Shell Education

It's HOW Big?!

"*Angel* shark" sounds sweet and pure,
So innocent and tame.
The smaller of its chordata kin . . .
But B-I-G just the same.
60 inches sounds quite small—
But 60 inches is 5 feet,
And since I'm only 4 foot 9
This shark has got me beat!

A lemon shark—how sweet is that?
Its color is a sunshine yellow;
So, surely its disposition
Is a sunny kind of mellow?
Still, 118 inches . . . hmm.
That's something to be weighed.
I mean, 10 feet of shark
Can cast a fearsome shade!

Hey, blue shark, don't be so sad;
There's no reason to feel blue!
All the other sharks must be
Tickled pink to play with you.
But—wow! You're 157 inches long?
That's something to consider.
13 feet of blue shark
Can eat a sizeable dinner!



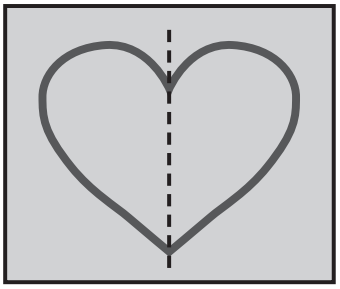
But, oh, I spy a Great White Shark—
A WHALE of a shark for sure!
240 inches from nose to tail—
What a sizeable size to procure!
But really, *how* big is that?
240 inches . . . wait, 2-4-0 you say?
THAT'S 20 FEET OF BONE-CRUNCHING SHARK!

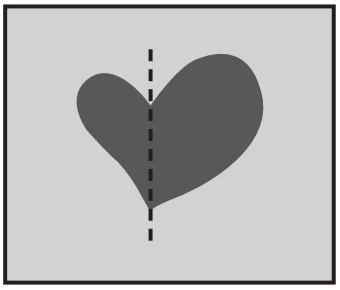
Oh, dear. Let's call it a day.

Lines of Symmetry

Adapted from a piece by Lori Barker

Basic Facts

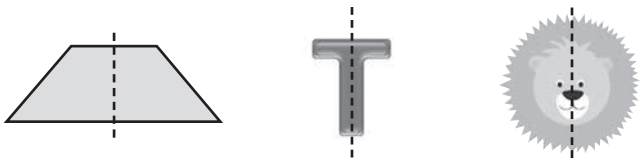
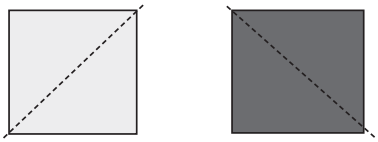




Here is a good way to know if a figure has symmetry. Can you fold the figure in half so that the two sides are an exact match? If the answer is yes, then the figure has symmetry. The type of symmetry seen with folding is called *line symmetry*. Do you see the dashed line through the heart on top? That is the line of symmetry. What if you folded along the line? The two sides of the heart would be an exact match! Look at the heart on the bottom. It is not symmetrical. What if you folded along the dashed line? The two sides would not match.

Identifying Lines of Symmetry

Look at each figure or drawing below. Each figure has at least one line of symmetry. Notice that some lines are vertical. Some lines are horizontal. Some lines are even diagonal. As you look at them, think of folding along the line of symmetry. See how the two sides exactly match.

Vertical	
Horizontal	
Diagonal	

More Than One Line of Symmetry

Sometimes figures can have more than one line of symmetry. A rectangle has two lines of symmetry. One line is vertical. The other line is horizontal.

Lines of Symmetry *(cont.)*

A square has a vertical line of symmetry. It also has a horizontal line of symmetry. It has two diagonal lines of symmetry. So, a square has four lines of symmetry.

A regular pentagon has five lines of symmetry. A regular hexagon has six.

A circle has an endless number of lines of symmetry.

The key to a line of symmetry is matching. If you can fold a figure in half so that there is no difference in the two sides, then it has a line of symmetry.

© Shell Education

Palindromes

Anna had the deified ability
To speak in perfect symmetry;
And so, whether coming or going,
People her words would be knowing.

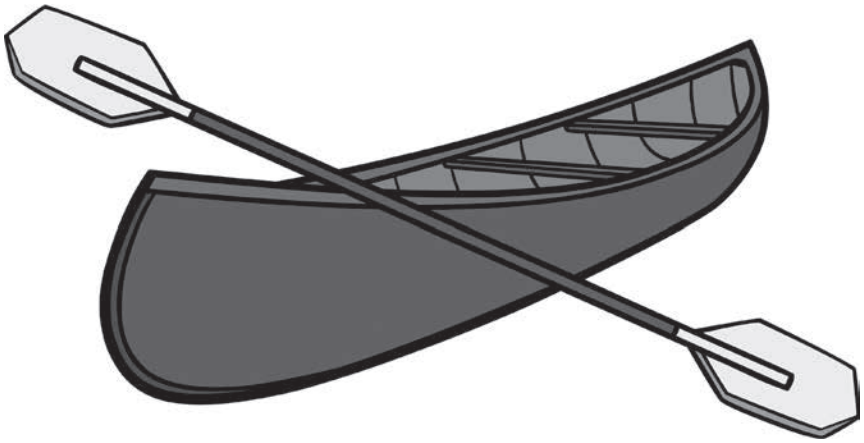
And so, each day, away or home
She spoke in classic palindrome.
"Rise to vote, sir!" said she to he.
"Madam, I'm Adam," she spoke randomly.

"Never odd or even," she was heard to say.
(No one was sure what she meant anyway.)
Odder still, she vowed to Aunt Reba,
"Able was I ere I saw Elba!"

Some words she spoke more often than not,
Such as *civic*, *radar*, *refer*, and *tot*.
A kayak she paddled, solos she sang,
"Step on no pets!" was her refrain.

Of course, when it came time for Anna to wed,
A promise from her mate to she was said,
That any children they might produce
Would be named Otto, Eve, Ada, and Soos.

Anna lived her long life this way,
Speaking symmetrically 'til her last day,
When those by her bedside assert Anna cried,
"Live not on evil!" then shuddered and died.



© Shell Education

Predator or Prey?

Adapted from a piece by Jack L. Roberts and Tyler Shook

Predators are animals that hunt, kill, and eat other animals. The hunted animals are called prey. Predators and prey work together to keep an ecosystem in balance. Predators who eat too much prey may run out of food. Predators and prey need each other to survive over time. There are many ways that animals try to be successful as predators or as prey.

Camouflage is how animals blend in with what is around them. They use color or physical features to do this. Their skin, fur, or feathers can blend in so that they can hide. Predators and prey use camouflage. They want to be able to move around without being noticed.

Both predators and prey use their speed. Predators use speed to catch their prey. Prey also use speed to get away from predators.

Some animals have a strong sense of sight, smell, or hearing. This helps them to hunt or to keep from being eaten. They can see, hear, or smell a predator (or prey) that is far away.

All animals must eat to stay alive. Some animals rely on other animals as food. The ways that animals hunt or escape are very important. This is what keeps different species alive!

© Shell Education

A Bird, came down the Walk

Adapted from a piece by Emily Dickinson

A Bird, came down the Walk—
He did not know I saw—
He bit an Angle Worm in halves
And ate the fellow, raw,

And then, he drank a Dew
From a convenient Grass—
And then hopped sidewise to the Wall
To let a Beetle pass—

He glanced with rapid eyes,
That hurried all abroad—
They looked like frightened Beads, I thought,
He stirred his Velvet Head.—

Like one in danger, Cautious,
I offered him a Crumb,
And he unrolled his feathers,
And rowed him softer Home—

Than Oars divide the Ocean,
Too silver for a seam,
Or Butterflies, off Banks of Noon,
Leap, plashless as they swim.

Name: _____ Date: _____

Our Wondrous Solar System

Adapted from a piece by Jack L. Roberts

The solar system is a huge area in space. It is the home of planets. It is the home of more than 160 moons. But, that is not all! You can find dwarf planets there. You can find tons of asteroids in the solar system, too. Are you curious about the solar system? You are not the only one! The ancient Greeks looked into the night sky just as you do. They saw objects that seemed to wander around the sky throughout the year. The Greek word *planetes* means "wanderer." Today, we know that these wandering objects are planets.

Did you know that ancient astronomers once thought Earth was the center of the solar system? They said everything else in the sky—including the sun—orbited around Earth. This view is known as *geocentrism*. And, people believed it until four hundred years ago. Then, an astronomer named Galileo Galilei said that Earth was not the center. He proved the sun is the center of the solar system. This view is known as *heliocentrism*. Today, we know the planets revolve around the sun.

Scientists divide planets into three main groups. The first group is called the *terrestrial planets*. Mercury, Venus, Earth, and Mars are part of this group. They are also called the inner planets because they are closest to the sun. Terrestrial planets have solid rocky surfaces.

The second group of planets includes Jupiter, Saturn, Uranus, and Neptune. They are the outer planets. They are called the *Jovian planets* or the *gas giants*. They are much bigger than Earth. You could fit 1,321 Earths inside Jupiter! Gas giants do not have solid surfaces. They are made primarily of gas. Planets like Neptune and Uranus are made of ice and gas. They are sometimes called ice giants.

The third group is called the *dwarf planets*. These are bodies in space that are similar to planets. But, they do not meet all of the criteria to be planets. For more than 70 years, Pluto was listed as the ninth planet of the solar system. Then in 2006, scientists came up with a new definition for a planet. Suddenly, Pluto did not fit that definition. So, it is now considered a dwarf planet.

Besides the planets, there are many other objects in the solar system. First, there are the moons orbiting the planets. Earth has just one moon. But other planets have dozens of them. And Mercury and Venus do not have any moons at all. There is also a part of the solar system known as the Asteroid Belt. It is between Mars and Jupiter. And it is made up of many oddly shaped rocks.

What is beyond our wondrous solar system? Are there other planets in space where life exists? These are questions that astronomers are exploring today.

Space Ace

Adapted from a piece by Max Fatchen

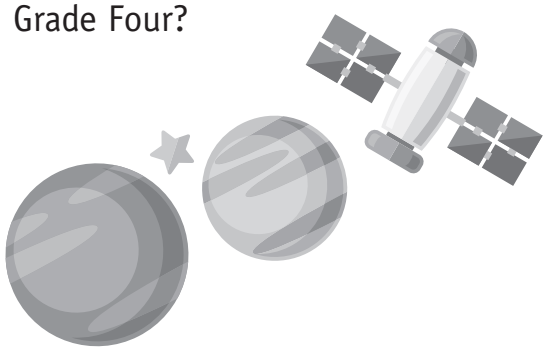
I'm a space ace of skill and daring.
The galaxies ring with my fame
And rows of bright medals I'm wearing.
Darth Vader turns pale at my name.

Superman is my friend and my ally,
And I think him a very nice bloke.
He flies in for supper on Sundays
With a swirl of his colorful cloak.

Fan letters from Venus and Saturn,
And here I'll be quoting a few:
"Dear Sir, I'm your greatest admirer,
Respectfully signed, Doctor Who."

I baffle the shrewdest commanders
And dodge interplanetary trap.
Molecular structures I shatter,
Rogue rockers I ruthlessly zap.

I'm the hero of comet and planet.
My lasers can win any war,
How come that I lose all the battles
With the teacher I have in Grade Four?



© Shell Education

Electric Circuits

Flowing electricity is called an electric current. An electric current flows from one object to another. We can control where electricity will go and what it will power. Electricity can follow a path. The path that electricity takes is called an electric circuit.

Three things are needed to make an electric circuit. A complete electric circuit needs a power supply, a path for the electricity to follow (this can be a metal wire), and a load. A load is something that changes electricity into another form of energy. A load may produce light, motion, heat, or sound.

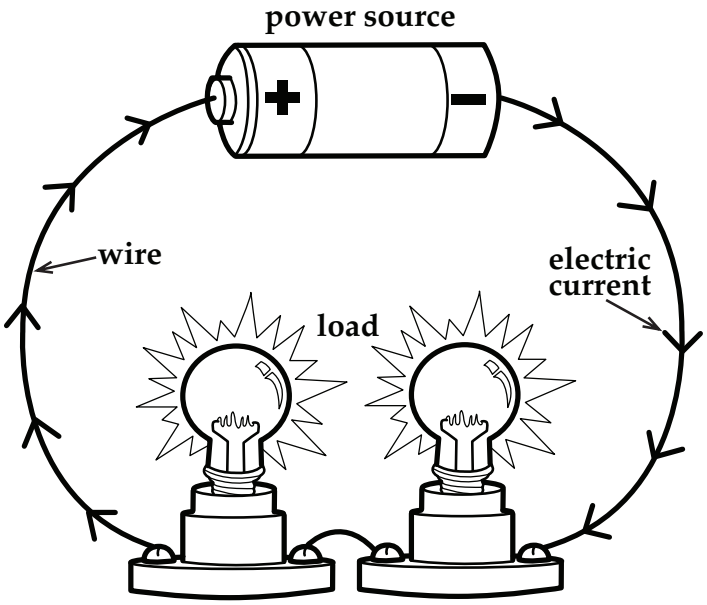
One type of power supply is a generator. Most of the electricity we use at home or at school comes from a generator. It can make large amounts of electricity. We use it to power lights and appliances like heaters, air conditioners, and computers. A battery is another type of power supply. It produces small amounts of electricity through a chemical reaction. Items that use batteries do not use a lot of electricity. They are items such as watches, flashlights, cell phones, and MP3 players.

Electricity flows through a path from the power supply to a load. A lightbulb is a load. Electricity passes through the filament of a lightbulb. As the electricity heats up the filament, it gives off light. A lightbulb is an example of a heat and light load.

A motor is another load. A motor turns energy into motion. The energy can move the parts in a motor. Fans are one example of a motion load.

A buzzer is also a load. Electricity can pass through it. This causes the buzzer to vibrate. This vibration creates a sound. We hear the sound when a buzzer is pressed.

An electric path is complete, or closed, if it has no breaks in it. It is called a complete circuit or a closed circuit. Any load placed in a complete circuit will receive electricity. The electricity flows from the power source to the load and back to the power source.



 © Shell Education

Name: _____ Date: _____

How Does Electricity Work?

Adapted from a piece by Sarah Kartchner Clark

Reader 2: Hey! What is all around us and makes our modern lifestyle possible?

Reader 3: How about air?

Reader 2: Nope. Electricity.

Reader 3: Wow! So how does electricity work?

Reader 1: It begins with electrons. All atoms contain one or more electrons. The electrons carry negative charges.

Reader 2: How do you know this?

Reader 1: I've been to school.

Reader 2: Many atoms keep their electrons close. The electrons stick to the atoms.

Reader 1: These kinds of materials are called electrical insulators.

Reader 2: It basically means that these materials don't conduct electricity very well.

Reader 1: Examples of these materials are wood, plastic, glass, air, and cotton.

Reader 3: Are there materials that do conduct electricity?

Reader 2: Yes! Most metals have electrons that can separate from the atoms and move around.

Reader 1: These electrons are called free electrons.

Reader 3: Does that mean that they didn't have to pay?

Reader 2: No, it means that they move around freely.

Reader 1: Metals that conduct electricity are gold, silver, copper, and iron.

Reader 2: The moving electrons transmit electrical energy from one point to another.

Reader 1: Electricity needs a conductor in order to move. It also needs something to take electricity through the conductor.

Reader 2: A generator uses a magnet to make the electrons move.

Reader 1: There is definitely a link between electricity and magnetism.

How Does Electricity Work? (*cont.*)

Reader 2: Electricity can be transported along wire lines.

Reader 3: Yes. So, why don't birds who sit on the wires get electrocuted?

Reader 2: Because the birds are not touching the ground or any other grounded object.

Reader 1: If you or anything you are holding, like a metal ladder or pole, touches an electrical line, you become the electricity's conductor to the ground and you will be electrocuted.

Reader 3: Electricity sounds very busy. It involves a lot of people and things.

© Shell Education

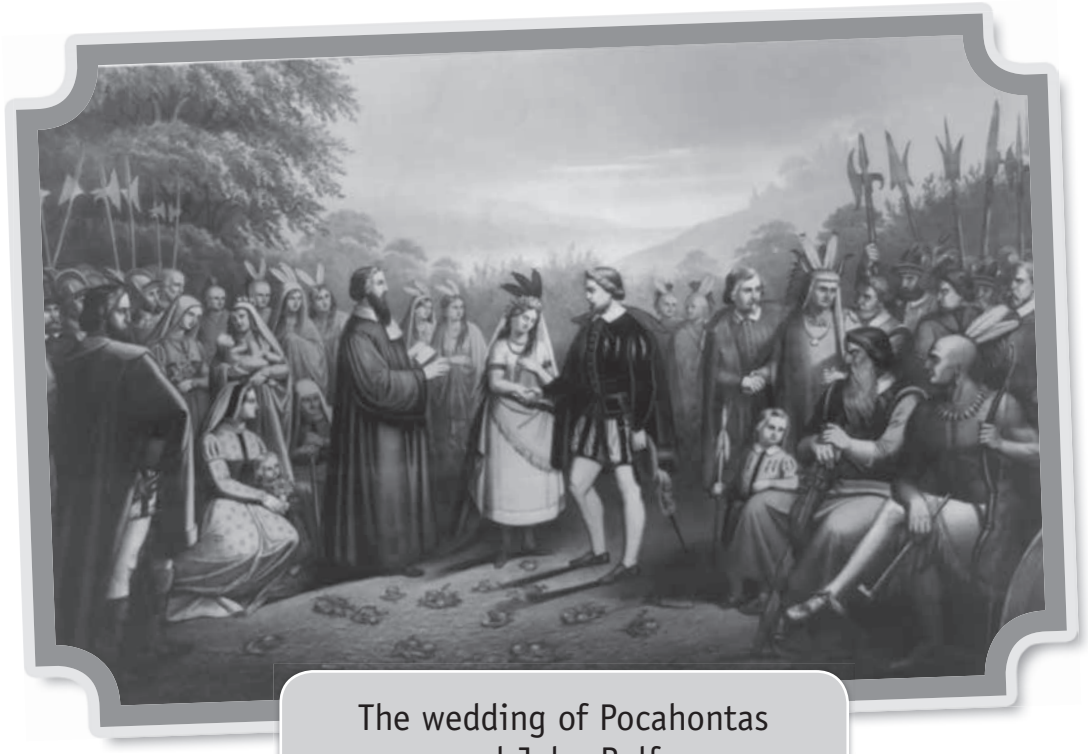
A Changing Relationship

Adapted from a piece by Stephanie A'Hearn and Kevin Morris

The Powhatan was a powerful chiefdom. This means different tribes were united under one chief. The most famous chief of the Powhatan was Wahunsunacock. The English called him Chief Powhatan. When the Europeans first came, the Powhatan welcomed the colonists. They taught the colonists how to use the land, harvest crops, and try to be self-sufficient. Many historians believe that Jamestown would have failed without the help of the American Indians.

This relationship changed over time as the Powhatan realized the Europeans would continue to encroach on their land. American Indians began to raid settlements and kill colonists. The colonists did the same to the American Indian tribes. The Powhatan had to decide how to deal with the settlers. Some American Indians wanted to attack the colonists in hopes of sending them away in fear. Others wanted the tribes to starve the colonists. To do this, the American Indians would stop trading with the colonists, stop bringing them food, and no longer help them farm the land.

Over the years, the American Indians and settlers had many conflicts. However, they eventually learned to live near each other more peacefully. In fact, one of the most famous members of the Powhatan tribe, Pocahontas, even married a European. The stories surrounding her marriage to John Rolfe have been told for centuries.



The wedding of Pocahontas and John Rolfe

Name: _____ Date: _____

Friend or Foe?

Adapted from a piece by Debra J. Housel

These are desperate times we all agree
Here in the Jamestown Colony.
More mouths to feed than food to share,
Winter's coming with no time to spare.

Are you friend or are you foe?
We the colonists want to know.

The harvest isn't what you planned
So we will help and lend a hand.
But do you promise to stay here?
Encroachment on our land we fear.

Are you friend or are you foe?
We Powhatan want to know.

Peace and harmony did not last
As the colonists moved westward fast.
The fighting lasted many years,
Losses on both sides were severe.

Are you friend or are you foe?
Neither side cares to know.

The Jamestown Colony began to thrive,
And America quickly grew in size.
The Powhatan were forced off their land,
Never to return again.

Are you friend or are you foe?
Study the past to see what it shows.

© Shell Education

Name: _____ Date: _____

Excerpt from the Declaration of Independence

IN CONGRESS, July 4, 1776.

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.—That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed,—That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such principles and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness. Prudence, indeed, will dictate that Governments long established should not be changed for light and transient causes; and accordingly all experience hath shewn, that mankind are more disposed to suffer, while evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed. But when a long train of abuses and usurpations, pursuing invariably the same Object evinces a design to reduce them under absolute Despotism, it is their right, it is their duty, to throw off such Government, and to provide new Guards for their future security.—Such has been the patient sufferance of these Colonies; and such is now the necessity which constrains them to alter their former Systems of Government. The history of the present King of Great Britain is a history of repeated injuries and usurpations, all having in direct object the establishment of an absolute Tyranny over these States.


IN CONGRESS, JULY 4, 1776.

The unanimous Declaration of the thirteen united States of America.

When in the Course of human events, it becomes necessary for one people to dissolve the political bands which have connected them with another, and to assume among the powers of the earth, the separate and equal station to which the Laws of Nature and of Nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation. We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness. That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed, That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such principles and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness. Prudence, indeed, will dictate that Governments long established should not be changed for light and transient causes; and accordingly all experience hath shewn, that mankind are more disposed to suffer, while evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed. But when a long train of abuses and usurpations, pursuing invariably the same Object evinces a design to reduce them under absolute Despotism, it is their right, it is their duty, to throw off such Government, and to provide new Guards for their future security.—Such has been the patient sufferance of these Colonies; and such is now the necessity which constrains them to alter their former Systems of Government. The history of the present King of Great Britain is a history of repeated injuries and usurpations, all having in direct object the establishment of an absolute Tyranny over these States. To prove this, let Facts be submitted to a candid world. He has refused his Assent to Laws, the most wholesome and necessary for the public good. He has forbidden his Governors to pass Laws of immediate and pressing importance, unless suspended in their operation till his Assent should be obtained; and when so suspended, he has utterly neglected to attend to them. He has refused to pass other Laws for the accommodation of large districts of people, unless those people would relinquish the right of Representation in the Legislature, a right inestimable to them and formidable to tyrants only. He has called together legislative bodies at places unusual, uncomfortable, and distant from the depository of their public Records, for the sole purpose of fatiguing them into compliance with his measures. He has dissolved Representative Houses repeatedly, for opposing with manly firmness his invasions on the rights of the people. He has refused for a long time, after such dissolutions, to cause others to be elected; whereby the Legislative powers, incapable of Annihilation, have returned to the People at large for their exercise; the State remaining in the mean time exposed to all the dangers of invasion from without, and convulsions within. He has endeavored to prevent the population of these States; for that purpose obstructing the Laws for Naturalization of Foreigners; refusing to pass others to encourage their migrations hither, and raising the conditions of new Appropriations of Lands. He has obstructed the Administration of Justice, by refusing his Assent to Laws for establishing Judiciary powers. He has made Judges dependent on his Will alone, for the tenure of their offices, and the amount and payment of their salaries. He has erected a multitude of New Offices, and sent hither swarms of Officers to harass our People, and eat out their substance. He has kept among us, in times of peace, Standing Armies without the Consent of our Legislatures. He has affected to render the Military independent of and superior to the Civil power. He has combined with others to subject us to a jurisdiction foreign to our constitution, and unacknowledged by our laws; giving his Assent to their Acts of pretended Legislation: For Quartering large bodies of armed troops among us: For protecting them, by a mock Trial, from punishment for any Murders which they should commit on the Inhabitants of these States: For cutting off our Trade with all parts of the world: For imposing Taxes on us without our Consent: For depriving us in many cases, of the benefits of Trial by Jury: For transporting us beyond Seas to be tried for pretended offences: For abolishing the free System of English Laws in a neighbouring Province, establishing therein an Arbitrary government, and enlarging its Boundaries

© Shell Education

Answering the Call

by Corinne Brown

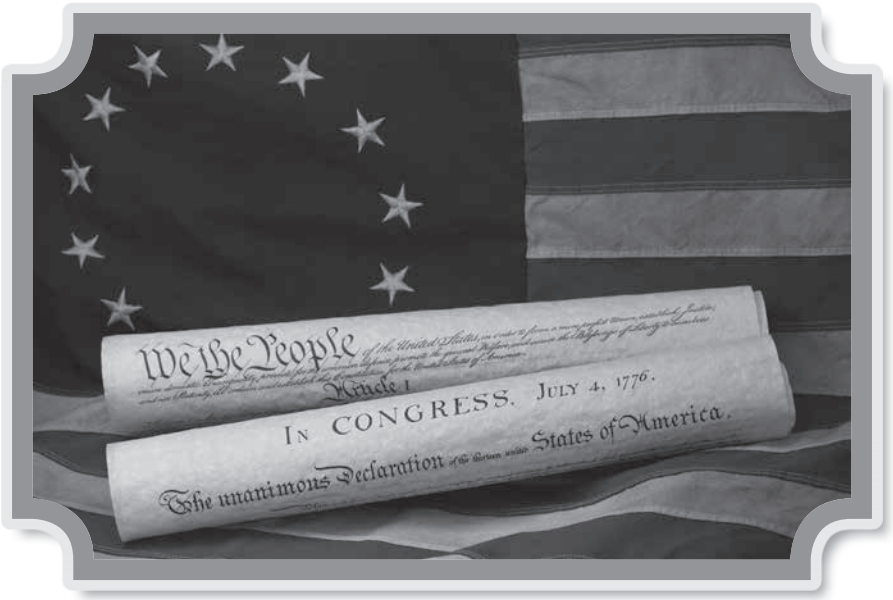
To do what we can,
To do what is right,
To say what we must,
And fight the good fight.

To take a bold stand,
To speak and be heard,
To live by honor
In deed and in word.

To declare independence,
To stand proud and strong,
To voice opposition
To all that is wrong.

To honor our mission,
To answer the plea,
To hold true and sacred
The faith placed in me.

This is my purpose,
My goal, and my call.
I'll answer it now,
For one and all.



Name: _____ Date: _____

Let's Visit Congress

Adapted from a piece by Margot Kinberg

How does our government work? Our government is a democracy. This means that we are free to choose the leaders who run our country. There are three branches of government. One of those branches is the legislative branch. The verb *legislate* means "to make laws." That is one thing this branch does. We call this branch *Congress*.

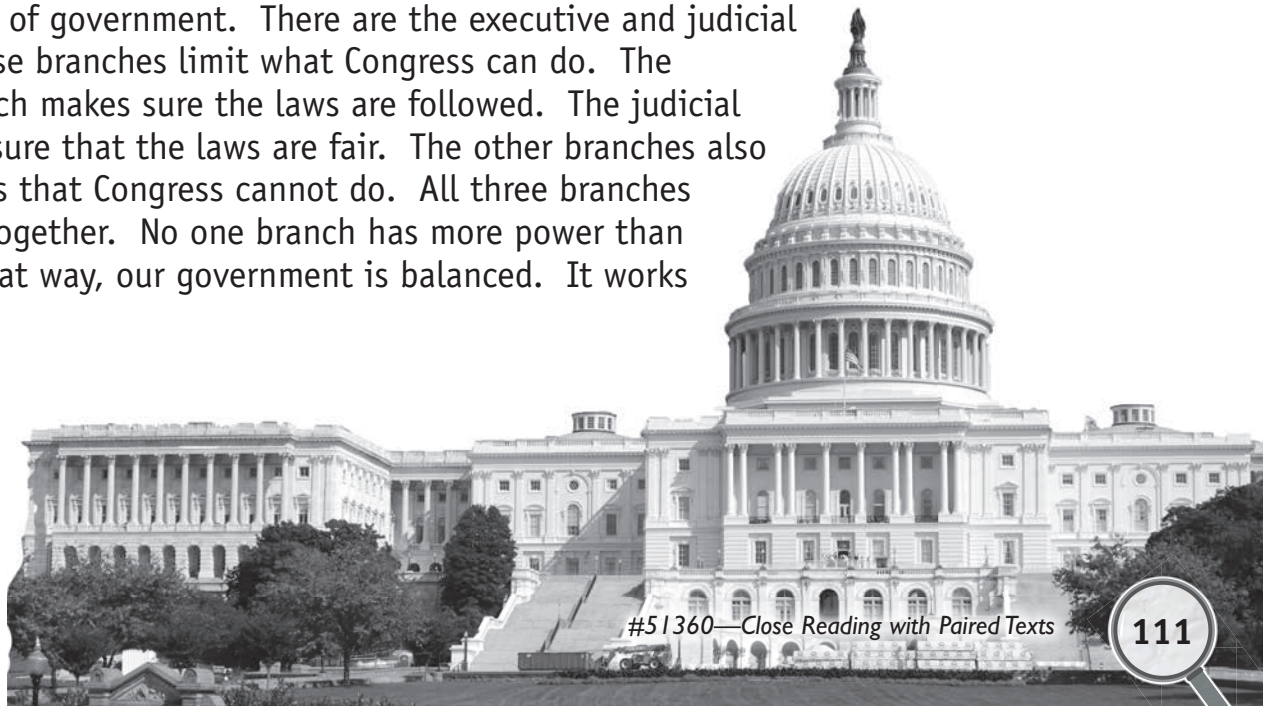
Congress has two houses, or parts. One house is the Senate. There are 100 senators. Why? The citizens in each state choose, or vote for, two senators. Senators are chosen every six years.

The other house is the House of Representatives. There are 435 representatives. States with a lot of people have a lot of representatives. States with fewer people do not. Some states only have one. The citizens in each state vote for their representatives every two years.

Representatives and senators are members of Congress. Members of Congress work in the Capitol building in Washington, D.C. One of their jobs is to make laws that will help people. How do they do that? First, a member of Congress creates a bill. Then, Congress votes on whether that bill should be a law. If Congress votes "yes" on the bill, then the bill goes to the president. When the president signs the bill, it becomes a law. If Congress votes "no" on the bill, then it does not become a law.

Congress doesn't just make laws. It is in charge of taxes. It is also in charge of making coins and other money. Congress makes treaties, or agreements, with other countries, too. Congress does many other things, as well. It is an important branch of the U.S. government.

But Congress can't do whatever it wants to do. There are two other branches of government. There are the executive and judicial branches. These branches limit what Congress can do. The executive branch makes sure the laws are followed. The judicial branch makes sure that the laws are fair. The other branches also do other things that Congress cannot do. All three branches have to work together. No one branch has more power than the others. That way, our government is balanced. It works for everyone!



My Country 'Tis of Thee

Adapted from a piece by Samuel Francis Smith

My country 'tis of thee,
Sweet land of liberty,
Of thee I sing.
Land where my fathers died!
Land of the Pilgrim's pride!
From every mountain side,
Let freedom ring!

My native country, thee,
Land of the noble free,
Thy name I love.
I love thy rocks and rills,
Thy woods and templed hills;
My heart with rapture fills
Like that above.

Let music swell the breeze,
And ring from all the trees
Sweet freedom's song.
Let mortal tongues awake;
Let all that breathe partake;
Let rocks their silence break,
The sound prolong.

Our father's God to, Thee,
Author of liberty,
To Thee we sing.
Long may our land be bright
With freedom's holy light;
Protect us by Thy might,
Great God, our King!

© Shell Education