

CONNECT **1** 2 3

Your Family • Community • World

Gettysburg Address

THE BATTLE OF GETTYSBURG

From July 1 to July 3, 1863, the Confederate and Union armies waged war 35 miles southwest from Harrisburg, Pennsylvania. It was a costly battle for both sides. The North suffered 23,000 casualties, or a quarter of its forces; while the South had 28,000 casualties, roughly a third of General Robert E. Lee's army.

On July 3, the final day of the battle, 12,000 Confederates attacked the center of the Union line at Cemetery Ridge. Pickett's Charge, as it came to be known, was met with Union fire and resulted in heavy casualties to the South. A day later, on the evening of July 4, General Lee retreated to Virginia. He would tender his resignation one month later.

After the battle, bodies lay scattered in the surrounding farmlands. Fearing an epidemic, the bodies were quickly and unceremoniously buried. With the support of the Pennsylvania governor, however, a committee was formed to create a national cemetery to inter the Union remains. As burial efforts got underway, the committee planned a dedication ceremony, selecting Edward Everett as the main speaker, and asking President Lincoln to make "a few appropriate remarks."

THE SPEECH

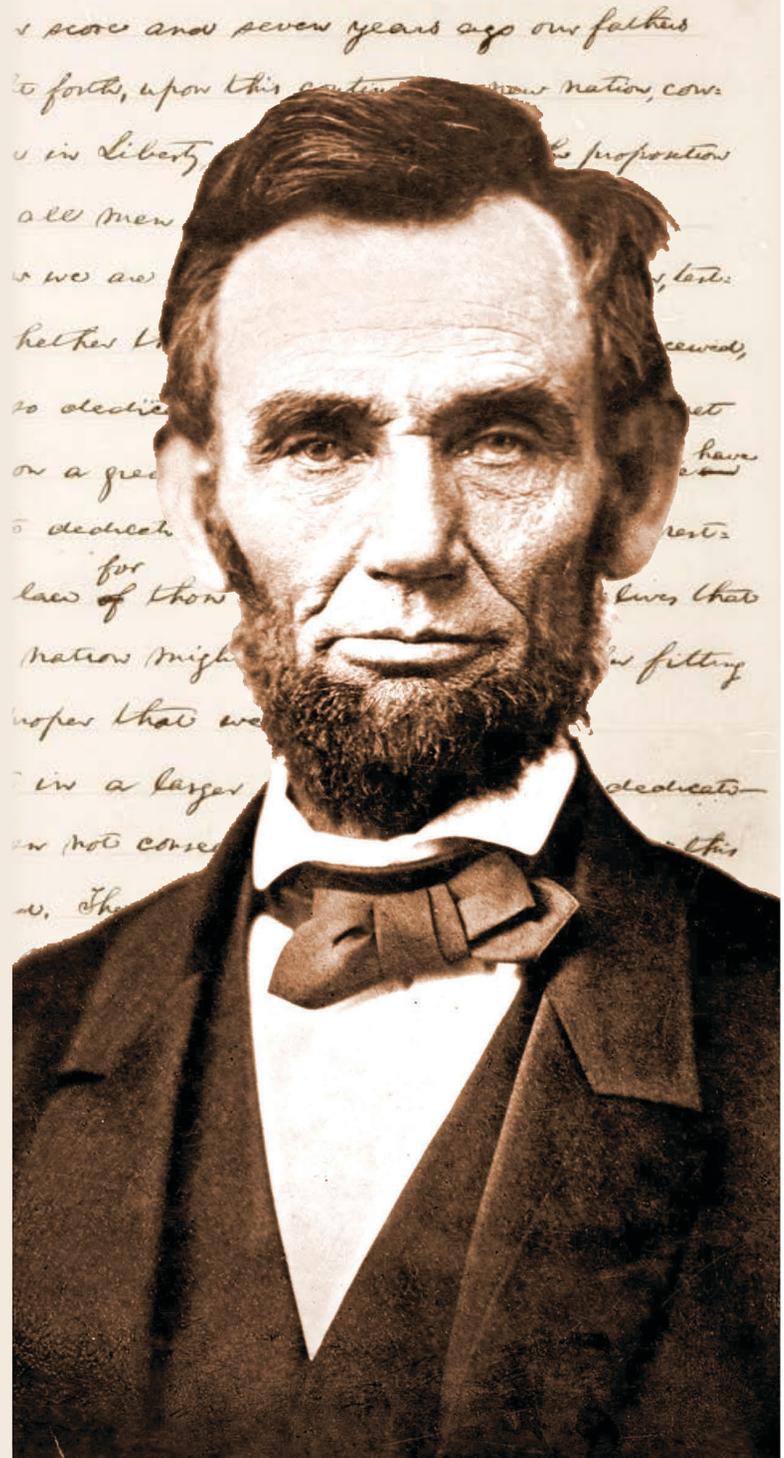
"Fourscore and seven years ago our fathers brought forth, on this continent, a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal.

Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived, and so dedicated, can long endure. We are met on a great battle-field of that war. We have come to dedicate a portion of that field, as a final resting-place for those who here gave their lives, that that nation might live. It is altogether fitting and proper that we should do this.

But, in a larger sense, we cannot dedicate, we cannot consecrate — we cannot hallow — this ground. The brave men, living and dead, who struggled here, have consecrated it far above our poor power to add or detract. The world will little note, nor long remember what we say here, but it can never forget what they did here.

It is for us the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us — that from these honored dead we take increased devotion to that cause for which they here gave the last full measure of devotion — that we here highly resolve that these dead shall not have died in vain — that this nation, under God, shall have a new birth of freedom, and that government of the people, by the people, for the people, shall not perish from the earth."

This text is a transcription of the "Bliss Version" of the Gettysburg Address, housed in the Lincoln Bedroom at The White House in Washington, DC.





MOUNTAIN AMERICA
CREDIT UNION



Be the One Who Gets It Done

Do you see things you'd like to change in your community? Do you feel concerned when you see:

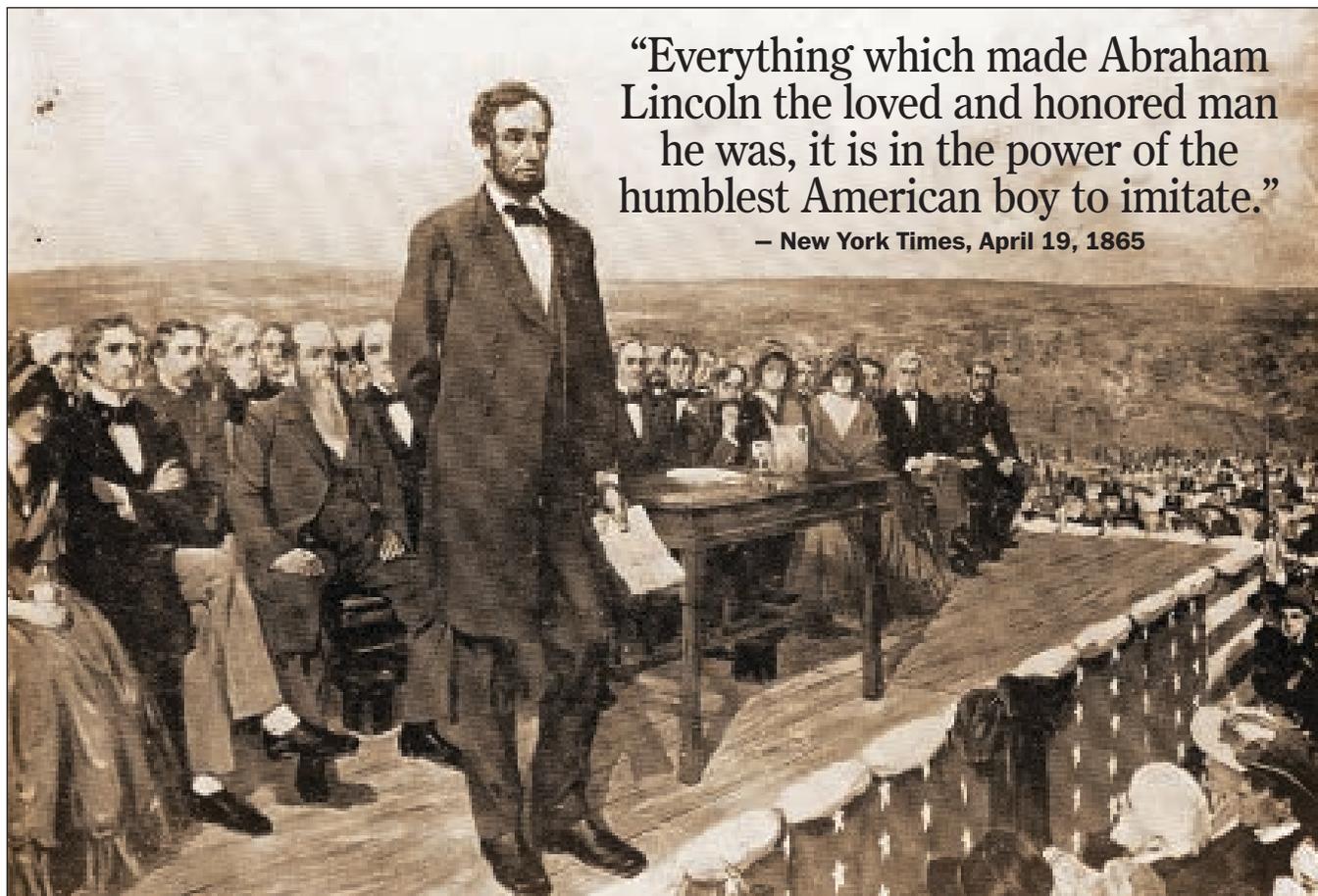
- A neighbor who is often outside working in their yard alone?
- A river or stream with trash along the banks?
- An old woman sitting by herself at a retirement facility?
- A classmate who is often excluded?

Never doubt the potential you have to influence the world by simply taking the time to notice opportunities. There are needs all around us, and you can do something to make a difference. If it's more than a small act of kindness, follow these simple steps:

- Determine what you want to see happen.
- Find out who else is interested in this cause or can provide further direction — parents, teachers, religious or community leaders, librarians.
- Write down what steps would help you get to your goal.
- Ask your friends if they would be willing to help you.
- Build in ways to make the project or event enjoyable.

You can organize a movement to reach a lofty goal, or you can simply look for ways to help every day. When you see an older person struggling with a heavy door, give a hand. If you see someone drop some packages, stop and help pick them up.

Small acts of kindness add up. One person's act of kindness can have a positive impact on many people's lives. Imagine if everyone were to take a few minutes every day to help others.



“Everything which made Abraham Lincoln the loved and honored man he was, it is in the power of the humblest American boy to imitate.”

— New York Times, April 19, 1865

LIBRARY OF CONGRESS



THE speech

A TWO-MINUTE MASTERPIECE

On November 19, 1863, Edward Everett, a former U.S. Senator and former Secretary of State, spoke at the dedication of the military cemetery in Gettysburg, Pennsylvania. Just four and a half months earlier, as many as 51,000 Union and Confederate soldiers had been killed, injured or captured in the Battle of Gettysburg, one of the bloodiest and most famous of the Civil War.

As the featured speaker that day, Everett droned on for two hours, testing the limits of his vocal cords — and the patience of thousands who had gathered to pay tribute. His long-winded oration set the stage for one of the greatest speeches in American history — Abraham Lincoln's 272-word, two-minute masterpiece that comforted, inspired and emboldened a young nation at war — known today as the Gettysburg Address. Lincoln's speech was so short,



One of the only two confirmed photos of Abraham Lincoln (circled) at Gettysburg, taken about noon, just after Lincoln arrived and some three hours before the speech. To Lincoln's right is his bodyguard, Ward Hill Lamon.

in fact, that most of the photographers who came to document the event left empty handed. Everett later wrote to Lincoln, “I wish that I could flatter myself that I had come as near to the central idea of the occasion in two hours as you did in two minutes.”

Painting of Abraham Lincoln at Gettysburg, by Fletcher C. Ransom.

“Great leaders are almost always great simplifiers who can cut through the argument debate and doubt to offer a solution everybody can understand.”

— Colin Powell

FOUR SCORE AND SEVEN YEARS AGO

Lincoln's remarks that day were more than appropriate, they were sublime and profound. Drawing on themes of freedom and equality, the president made a connection between the Revolutionary War and the Civil War. He challenged Americans to undertake “the great task remaining before us ... that this nation, under God, shall have a new birth of freedom.”

Senator Charles Sumner would later write: “That speech, uttered at the field of Gettysburg ... is a monumental act. In the modesty of his nature he said ‘the world will little note, nor long remember what we say here; but it can never forget what they did here.’ He was mistaken. The world at once noted what he said, and will never cease to remember it.”

As we celebrate the anniversary of Lincoln's seminal speech, we encourage you to read, study, memorize and, most importantly, apply the Gettysburg Address. Find historical photos and videos, classroom activities and other resources to help in your study at gettyready.org.

LITERARY TOOLS WORKSHEET

Although Abraham Lincoln had less than one year of formal education, he possessed a logical and inquisitive mind enabling him to write one of the most eloquent speeches in our nation's history. A successful speech is

one the audience remembers, repeats and responds to. Lincoln employed many rhetorical devices in his talent with words, but his mature speeches are especially characterized by the following literary tools:

- Grammatical parallelism
- Antithesis
- Alliteration
- Repetition

Parallelism

Parallelism is a rhetorical technique in which a writer emphasizes the equal value or weight of two or more ideas by expressing them in the same grammatical form. Example, "that nation so conceived," and "any nation so dedicated."

List all the examples you can find:

EXAMPLE: <i>that nation</i>	<i>any nation</i>	<i>this nation</i>

Antithesis

Antithesis is a rhetorical technique in which words, phrases or ideas are strongly contrasted, often by means of a repetition of grammatical structure. In literature, the use of antithesis as a figure of speech results in two statements that show a contrast through the balancing of two opposite ideas.

EXAMPLE: <i>the brave men</i>	<i>our poor power</i>	

Alliteration

The repetition of the same sounds or of the same kinds of sounds at the beginning of words or in stressed syllables. Alliteration is fun to say and enjoyable to hear, and used to call attention to certain words. Alliteration is an important sound technique for making particular words stand out. It also connects the words to be emphasized.

EXAMPLE: <i>Fondly do we hope</i>	<i>ferverently do we pray</i>	

Repetition

Repetition is a classic technique in presentation and speech making. It helps tie the theme together and it creates clarity for the listener. Additionally, we remember words and phrases more readily when they are packaged in threes.

EXAMPLE: <i>We cannot dedicate</i>	<i>we cannot consecrate</i>	<i>we cannot hallow this ground</i>

Literary Tools Worksheet Answer Key (you may find more)

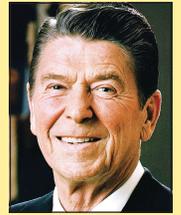
Note nor
We here highly
Of the people, by the people, for the people, perish
New nation, that nation, any nation
So conceived, so dedicated
We are engaged, we are met, we have come
We cannot dedicate, we cannot consecrate, we cannot hallow
Of the people, by the people, for the people

Antithesis
Living, dead
Little note, long remember
What we say here, what they did here
Add, Detract
Gave their lives, Nation might live
Alliteration
Fourscore, founding, fathers, forth
New nation
Continent, conceived
World will

Parallelism
Conceived in liberty, dedicated to the proposition
That nation, that war, that field
So conceived, so dedicated
Cannot dedicate, cannot consecrate, cannot hallow
Little note, long remember
What we say here, what they did here
To the unfinished work, to the
great task, to that cause
That these dead, that this nation
Of the people, by the people for the people

NOTABLE QUOTABLES on freedom and equality

"Freedom is never more than one generation away from extinction. We didn't pass it on to our children in the bloodstream. It must be fought for, protected, and handed down for them to do the same, or one day we will spend our sunset years telling our children and our children's children what it was like in the United States when men were free."



— Ronald W. Reagan

"You may not always have a comfortable life and you will not always be able to solve all of the world's problems at once but don't ever underestimate the importance you can have because history has shown us that courage can be contagious and hope can take on a life of its own."



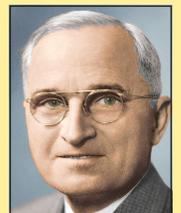
— Michelle Obama

"True patriotism springs from a belief in the dignity of the individual, freedom and equality not only for Americans but for all people on earth, universal brotherhood and good will, and a constant and earnest striving toward the principles and ideals on which this country was founded."



— Eleanor Roosevelt

"You know that being an American is more than a matter of where your parents came from. It is a belief that all men are created free and equal and that everyone deserves an even break."



— Harry S. Truman



QUIZ

HOW DO YOU GRADE ON GETTYSBURG?

- How many words are there in the Gettysburg Address?
a. 196 b. 267 c. 272 d. 401
- A "score" is how many years?
a. 10 b. 20 c. 30 d. 100
- Who was designated to be the main speaker at the dedication of the National Cemetery in Gettysburg, on November 19, 1863?
a. Stephen Douglas b. Abraham Lincoln
c. Edward Everett d. John Phillip Sousa
- What national holiday was created in 1863?
a. Veterans' Day b. Thanksgiving
c. Presidents' Day d. Memorial Day
- In what state is Gettysburg located?
a. Virginia b. Maryland c. South Carolina
d. Pennsylvania
- Which general commanded the Confederate army at the Battle of Gettysburg?
a. Robert E. Lee b. James Longstreet
c. George E. Pickett d. J.E.B. Stuart



WIKIPEDIA

- L. Prang & Co. print of the painting "Hancock at Gettysburg" by Thure de Thulstrup, showing Pickett's Charge. Restoration by Adam Cuerden.**
- How many days did the Battle of Gettysburg last?
a. 1 b. 2 c. 3 d. 5
 - How many handwritten versions of the Gettysburg Address are there?
a. 1 b. 4 c. 5 d. 11
 - Approximately how many soldiers lost their lives in the battle at Gettysburg?
a. 7,500 b. 25,000 c. 30,000 d. 50,000
 - To which document was President Lincoln referring for the proposition that all men are created equal?
a. The Constitution b. The Emancipation Proclamation
c. The Civil Rights Act d. The Declaration of Independence

DID YOU KNOW?

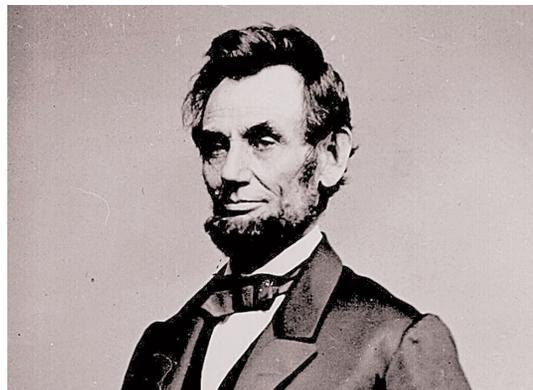


In 1863 Lincoln signed a proclamation establishing this "day of Thanksgiving and Praise" to officially be celebrated by all states on the fourth Thursday in November. Lincoln hoped that establishing this new national holiday would be a way to help unify our country during the Civil War. Prior to Thanksgiving becoming a national holiday, the only national holidays were Washington's Birthday and Independence Day.

LIFE OF LINCOLN

Abraham Lincoln was born on February 12, 1809, on the Kentucky frontier. He received very little formal schooling and educated himself by reading classic American literature, as well as the Bible. He began practicing law in 1836, and worked for 20 years as an attorney. He married Mary Todd in 1842 and had four sons, three of whom died at an early age.

Lincoln failed in business, suffered a nervous breakdown and lost eight elections before being elected President of the United States in 1860. As president, he issued the Emancipation Proclamation, delivered the historic Gettysburg Address and led the U.S. through the Civil War. President Lincoln was assassinated by John Wilkes Booth on April 15, 1865, in Washington, D.C.



Abraham Lincoln, ca. 1863. By Matthew B. Brady.

DID YOU KNOW?



When Abraham Lincoln delivered the Gettysburg Address, he was weak and dizzy; his face had a ghastly color. It turned out that he was suffering from the early stages of smallpox.

President Lincoln's famous phrase "government of the people, by the people, for the people..." is used in the Constitution of France.

Lincoln was asked by several people for copies of his speech. Five manuscript copies of the Gettysburg Address exist which are named for the person who received a copy from Lincoln. They are referred to as the Nicolay, Hay, Everett, Bancroft and Bliss copies.

ANSWERS: 1. c, 2. b, 3. c, 4. b, 5. d, 6. a, 7. c, 8. c, 9. d, 10. d.

Read Today
POWERED BY
Deseret News

Turkey day trivia



AP

As Thanksgiving approaches there are a variety of things we do to prepare. Some families travel while others might stay at home. Some prepare lavish feasts while others eat out. No matter what your holiday tradition, here are ten fun facts to enjoy.

- The first Thanksgiving was held in the autumn of 1621 and included 50 Pilgrims and 90 Wampanoag Indians and lasted for three days.
- Thanksgiving didn't become a national holiday until more than 200 years later! Sara Josepha Hale, the woman who wrote "Mary Had a Little Lamb," convinced President Lincoln in 1863 to make Thanksgiving a national holiday after writing letters for 17 years.
- Historians say no turkey was on the menu at the first Thanksgiving. What was on the menu? Deer or venison, ducks, geese, oysters, lobster, eel and fish.
- No forks were at the first Thanksgiving! The first Thanksgiving was eaten with spoons and knives but not forks. Forks weren't even introduced to the Pilgrims until ten years later and weren't a popular utensil until the 18th century.
- Wild turkeys can run 20 miles per hour when they are scared, but domesticated turkeys that are bred heavier can't run as fast.
- Benjamin Franklin wanted the turkey to be the national bird, not the eagle.
- Americans eat 46 million turkeys each Thanksgiving.
- Neil Armstrong and Buzz Aldrin's first meal in space after walking on the moon was a foil packet with roasted turkey.
- The heaviest turkey on record, according to the Guinness Book of Records, weighs 86 pounds!
- Californians consume the most turkey in the U.S. on Thanksgiving Day!



DESERET NEWS

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55 N. 300 West
Salt Lake City,
UT 84101

NIE director:
Cindy Richards
801-237-2172
crichards@deseretnews.com
Art director:
Heather Tuttle

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CONNECT 123

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Riddle me this



Can you answer these puzzling questions?

■ The more of them you take, the more you leave behind. What are they?

■ It stands on one leg with its heart in its head. What is it?

■ What is put on a table and cut, but never eaten?

■ What's full of holes but still holds water?

■ What turns everything around, but does not move?

■ I have arms, legs and a back, but I never walk anywhere. What am I?

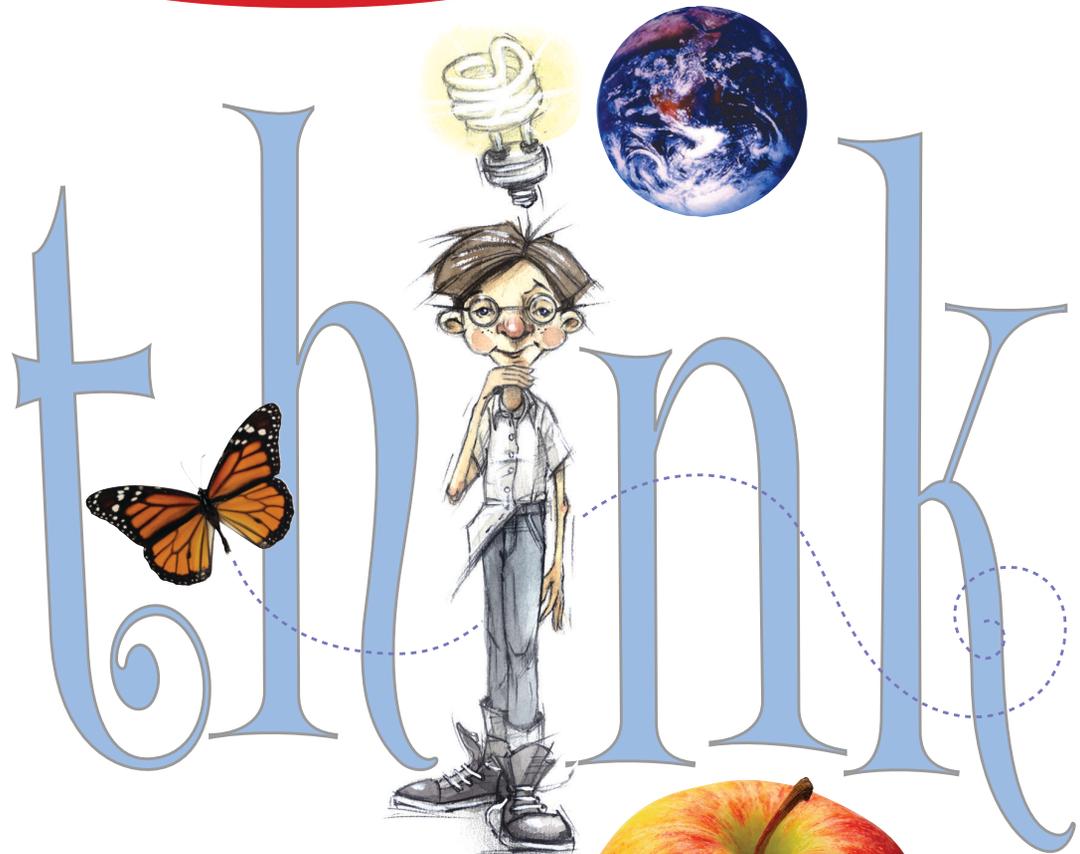
■ How much dirt is in a hole that is three feet deep, and 10 inches in diameter?

■ Which image describes a new thought?

- a. bells
- b. light bulb
- c. brainstorm
- d. all of the above

FOR ANSWERS SEE PAGE 4 OF THIS SECTION

Science & Technology



"Imagination is more important than knowledge. For knowledge is limited to all we now know and understand, while imagination embraces the entire world, and all there ever will be to know and understand."

-Albert Einstein

like a
genius

Where do we get new ideas? Most people would say that we "think them up." But how do our brains suddenly have a really new thought? Mostly we learn names and numbers and how to do things. But to have a new idea we have to give our thoughts room to roam.

Look for ideas in different places. Watch how an animal moves when you are trying to think of a new design for a robot. Watch your fingers carefully as you move each one. Remember the expression "thinking outside the box." If

SEE **THINK** ON PAGE 2

THINK CONTINUED FROM PAGE 1

you are building a house, does it have to be square? Look closely at different kinds of leaves. Then think about how their designs could be used for a roof.

Think about creating a new game. Take any kind of ball and write down all the different things you could do with it. Think about rolling it, hitting it, floating it in water, balancing it on something. Then instead of playing baseball with a baseball, try doing something different with it. Finally, write down the rules for your new game.

What if you keep having the same old thoughts? Get up and do something completely different. When you come back your mind may have wandered to give you another idea. If you are trying to think of an idea for the future, look at a book about the ancient past.

A group of people can often think up better ideas than one person alone. It is like being with friends and someone thinks of something funny. That makes everyone think of something even funnier. Everyone comes up with different things to laugh about. So think about inventing as a way of having fun. What makes us laugh is often something unexpected: a new idea.



Where do brainstorming come from?

Over a hundred years ago if you had a bright idea, you might have called it a "brain wave." Now, we like to use the term "brainstorm" when we mean our minds are being creative. In the 1950s a business leader wrote about "brainstorming" as a way to help people to come up with something new. The point is to encourage wild ideas and get a group to think out loud together. If you think of a thunderstorm with lightning flashing, you see where the name may have come from.

Here are some ways to get new ideas:

- get paper and pens to write ideas down
- write down the first words that come into your mind
- think of the craziest idea you can come up with
- see a picture in your mind instead of trying to use words
- draw your thoughts or make a cartoon out of them
- build a model or fold up paper to help your idea take shape

newspaper activity



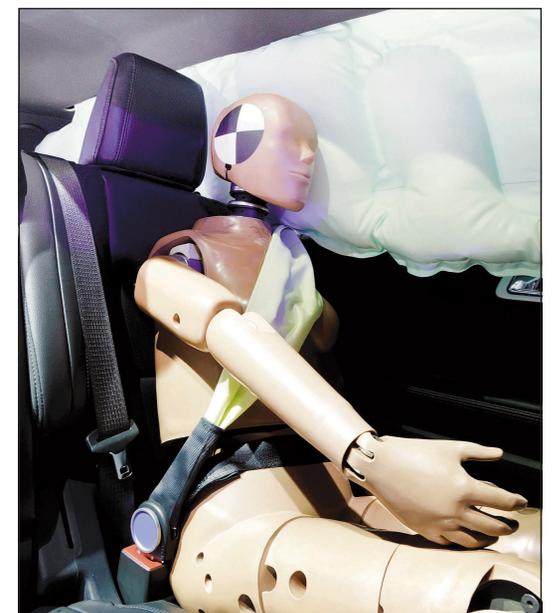
Remember that the word "news" is the first word in "newspapers." We want to know what just happened and who did what. But the newspapers are also full of new ideas, new problems, new discoveries. Look through your paper for some stories that interest you. Then write down every new idea that you find. See if you can find a story about a new invention. What kinds of new ideas are being tried to fix old problems? What new ideas come into your mind as you read about the news?

SPOTLIGHT

The hidden life saver

What is a life-saving invention that you may never see? If you ride in a car less than 10 years old, it will have an air bag. Even though air bags for cars were invented in 1952, it took nearly 40 years for them to become common. It took the work of inventor Carl C. Clark to prove that air bags would save many lives in car crashes. He used to speak in schools in Maryland as "Mr. Science." He would challenge students to figure out how to protect an egg when it was dropped from a height of six feet.

Clark was the kind of scientist who liked to do things himself. In one experiment, he built a large box. He lay down in the box sandwiched between two air bags. Then the box was lifted and dropped, then raised up higher and dropped, over and over. He also worked on the idea of using air bags to protect astronauts and airplane passengers. Another idea was inflatable underwear that would save elderly people from broken bones if they fell. One friend said that Clark wanted to put an air bag on anything that moved!



SHUTTERSTOCK

Carl C. Clark's life-saving invention, the air bag.

This is the place — FOR INNOVATION

BY HERB SCRIBNER
DESERET NEWS

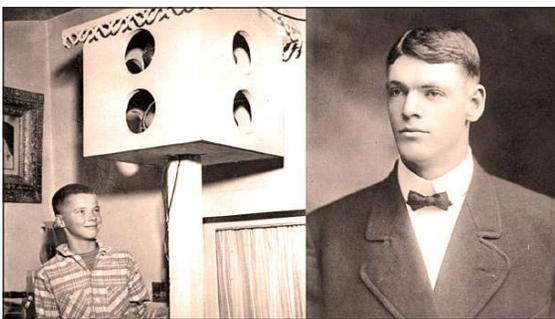
Many of the most influential inventions of our time are American made.

MidAmerica Nazarene University looked into every state's most important invention, ranging from the iPhone to the kayak to the taser.

In Utah, the electric traffic light topped the list. Lester Farnsworth Wire developed it in 1912, according to the university.

"Some inventions prove to be revolutionary because they change society in a profound way. These inventions are so integral to our modern lives that we can barely think of a time before these products, let alone a reason why we'd ever return to the days before such inventions," according to the university.

Utah led the nation as best states for business and entrepreneurship in a CNBC list. Late last year, Utah also topped Forbes' 11th annual Best State for Business, winning the title for the third straight year.



UTAH HISTORICAL SOCIETY

The simple "flashing bird house" used a two-way switch to control red and green lights and was powered by the lines for the trolley cars. Wire, a Salt Lake City police officer, was concerned about the patrolmen who had to stand in the middle of the street to direct traffic. His signal was controlled from the side of the road.

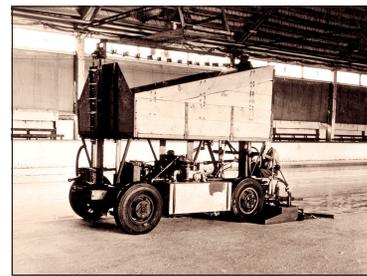


WIKIPEDIA

INVENTED BY UTAHNS

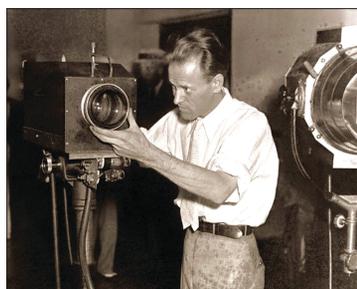
THE FRISBEE

Walter Frederick Morrison of Richfield, Utah said he got the idea for his Pluto Platters when tossing around a popcorn tin lid on the beach with his future wife, Lu. The lid eventually dented, causing Morrison to turn to a much more durable model: the pie tin. Morrison sold the production and manufacturing rights to his Pluto Platter in 1957. The plastic flying disc was later renamed the Frisbee.



THE ZAMBONI

Frank J. Zamboni was born in 1901 in Eureka, Utah. In 1939, Frank, along with his brother and a cousin, built Iceland Skating Rink in California. Frank soon realized they needed a better way to resurface the ice. His experiments led to the Zamboni machine.



CORBIS IMAGES

THE TELEVISION

Philo T. Farnsworth, from Beaver, Utah, produced the first electronic television transmission. After a few years of tests, he was able to use his wife, Pem, as the first human subject to be transmitted on television in 1930. In 1938, he unveiled a prototype of the first all-electric television, and went on to lead research in nuclear fusion.

FRY SAUCE

Don Carlos Edwards of Logan, Utah opened the Arctic Circle restaurant in SLC. He made a special signature sauce for his hamburgers that consisted of ketchup, mayonnaise, garlic, dill pickle sauce and other spices that still remain a secret. He called it "pink sauce."



One day, Edwards dipped his French fry in the sauce. He loved the taste so much that it was deemed the official fry sauce of his restaurant.

Walter Frederick Morrison promoting his Pluto Platters, the forerunner of the Frisbee, in the 1950s.

Activity

Working in small groups, brainstorm ideas for an invention that would make your lives easier. Then, invent it! Work your ideas out on paper, research options, and, if possible, build a prototype or diagram to show to the class.

It's not that we need new ideas, but we need to stop having old ideas.

— Edwin Land, who invented Polaroid instant photography

NATIONAL
**GEOGRAPHY
AWARENESS**
WEEK

NOVEMBER 12-28, 2017

The New Age of Exploration

Celebrated in conjunction with the National Geographic Society's 125th birthday, the week's theme focuses on how geography enables us all to be intrepid explorers in our own way.

Geography is about curiosity, exploration and discovery. It gives you the power to see places in new ways, even imaginary ones. Geography also helps you to understand and make sense of the world.

To be a successful geographer you should:

- Think of your own questions
- Search for your own answers
- Talk, watch and listen to people, animals, plants and places
- Think about who you are and the effect of your actions

Geographers use many different "ings" to research, share and act on discoveries. Practice your "ings" to improve your ability to do missions including: observing, reading, drawing, rubbing, digging, mapping, climbing, ducking, conversing, comparing, photographing, testing, seeking, peeking, clucking, barking, graphing and searching.



SHUTTERSTOCK





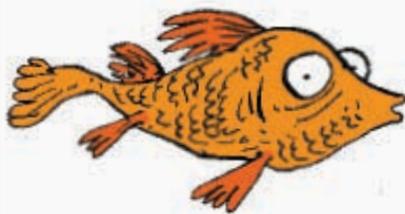
Learn More, Earn More

When it comes to money, an education after high school will be one of your most expensive propositions and one of your most lucrative. Education affects people's earning power more than anything else. For college graduates, that means greater earning potential and better advancement opportunities throughout their careers.

According to the Bureau of Labor Statistics' website, here's how much education it will take to get a job with the following median weekly earnings:

- \$488: Less than a high school diploma
- \$668: High school diploma
- \$756: Some college
- \$1,156: Bachelor's degree

While tuition costs are rising quickly, saving early can help minimize the amount of debt you incur from college. You can also consider other ways to make college more affordable. Take concurrent enrollment classes in high school, complete your generals at your local community college, work part time while in school or join the military. Your increased earning potential with an education after high school will make your long-term career aspirations much more attainable.



Mission: Explore

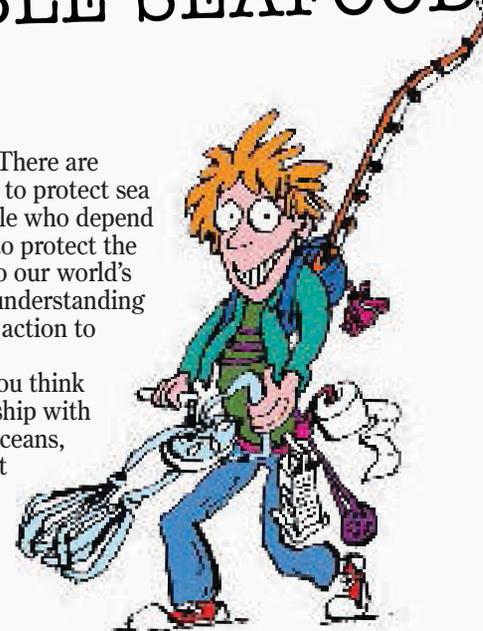
SUSTAINABLE SEAFOOD

The world's oceans are beautiful, but they are also critical to our survival. Our weather and climate is shaped by them. They contain vital global ecosystems. Our economies rely on them, and they are a source of food for billions of people around the world. Our lives depend on the world's oceans.

Overfishing, climate change and pollution are all having devastating effects on sea life around the world. Seafood supplies are under threat. Millions of people's jobs are at risk, and many species of fish are on the brink of extinction.

It's not all bad news though. There are many success stories of efforts to protect sea life and the livelihoods of people who depend on it. You too have the power to protect the oceans. We are all connected to our world's oceans, and by exploring and understanding these connections we can take action to restore them.

Each activity here will help you think differently about your relationship with not only seafood but also the oceans, people, places and systems that they are connected to.

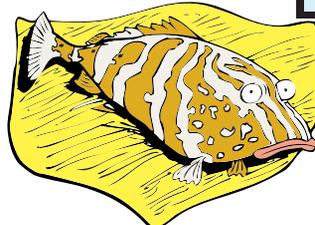


Don't bite endangered fish

Some species of fish are being caught, or harvested, and eaten so quickly that their numbers are going down. Many are endangered and even face possible extinction because we're overharvesting them. Choose a fish from the list to the right and research to discover whether it is an endangered fish and why.

- | | |
|----------------|-------------|
| ■ ATLANTIC COD | ■ EEL |
| ■ MONKFISH | ■ SWORDFISH |
| ■ HADDOCK | ■ SHARK |

The Nassau Grouper



Nothing exemplifies the challenges of managing reef fish quite like the woeful tale of Nassau grouper. Once an iconic emblem of healthy Caribbean reefs, this shallow water grouper is now threatened with extinction throughout most of its natural range.

Despite its large range — through the Caribbean and some of North and South America's Atlantic Ocean — several characteristics of this grouper species make it particularly vulnerable to depletion:

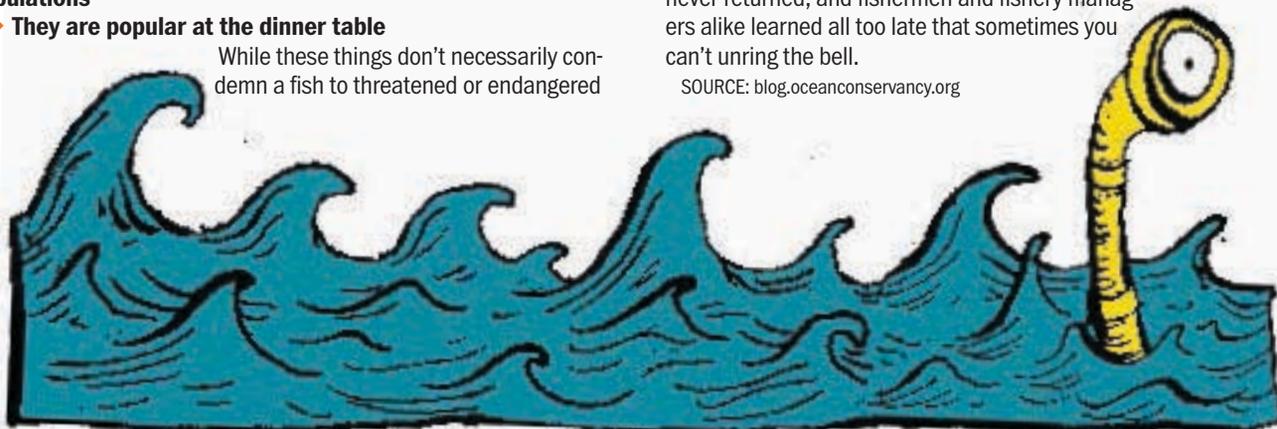
- ◆ **These fish grow slowly**
- ◆ **Don't reproduce until later in life**
- ◆ **Appear in shallow waters close to shore and thus human populations**
- ◆ **They are popular at the dinner table**

While these things don't necessarily condemn a fish to threatened or endangered

status, one particular trait of the Nassau grouper does: *They reproduce only once per year at the same place, at the same time and they do so by the tens of thousands. Or they did.*

But the same behavior that makes for one incredible scuba dive also makes for one profitable and easy fishing trip, and one by one the seemingly endless aggregations of spawning Nassau grouper were fished out of Caribbean waters. Those same locations that were filled with fish in the 1960s now have one or two lonely fish coming back to them on their annual pilgrimage. Even with some protections against fishing, the aggregations have never returned, and fishermen and fishery managers alike learned all too late that sometimes you can't unring the bell.

SOURCE: blog.oceanconservancy.org



ACTIVITY

Check labels at home or at the grocery store. If you see “carrageenan” or references to alginate or agar, then that item contains marine algae. Find 10 different products and list them below.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Innovate with seaweed

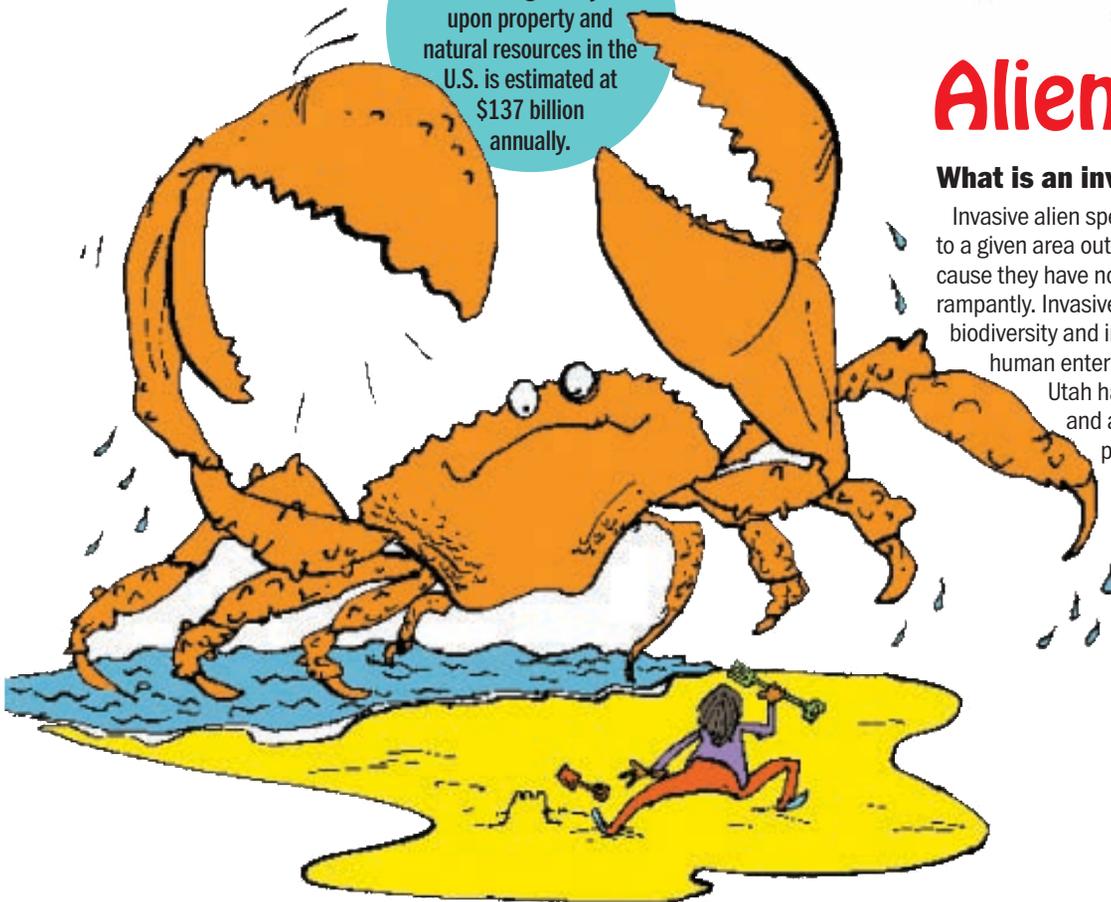
Seaweed, or marine algae, provides food and shelter for marine life. Anyone who has had sushi knows that seaweed can be a food source for humans too, but did you know that algae can be found in ice cream, milk shakes, salad dressings and toothpaste? The gelatinous substances in algae are used as thickeners and gelling agents.

Seaweed has also been used for biofuel, fertilizer and wastewater treatment.

How many different things can you think of using seaweed for? List your inventions below.



The cost to control invasive species and the damages they inflict upon property and natural resources in the U.S. is estimated at \$137 billion annually.



Alien attack!

What is an invasive species?

Invasive alien species are plants, animals or other organisms that are introduced to a given area outside their original range and cause harm in their new home. Because they have no natural enemies to limit their reproduction, they usually spread rampantly. Invasive alien species are recognized as one of the leading threats to biodiversity and impose enormous costs to agriculture, forestry, fisheries and other human enterprises, as well as to human health.

Utah has been invaded by a number of harmful exotic species plants and animals. Here is a quick look at some of the worst current and potential invaders:

Name	Type	Origin	Extent	Damage
Saltcedar	Shrub/ Small tree	Asia, introduced as ornamental and windbreak in 1800s	Over 1 million acres of southwestern streambanks	Lowers stream flows and water tables, increases soil salinity, displaces native species and wildlife habitat
Purple loosestrife	Wetland plant	Europe and Asia; introduced in 1800s as ornamental and medicinal plant or ship ballast water	Isolated communities found throughout Utah	Displaces native wetland plants; has less food and habitat value for waterfowl and other wildlife
Eurasian watermilfoil	Aquatic plant	Eurasia; introduced as an aquarium plant	Otter Creek Reservoir and Fish Lake	Forms thick stranded dense mats that interfere with native vegetation and water recreational capabilities
Channel catfish	Fish	Eastern U.S.; introduced as a sport fish in 20th century	Colorado River basin	Channel catfish and the 66 other introduced fish species in Utah are a major threat to four species of endangered native fish

Find out more at www.defenders.org

