

TEACHERS GUIDE

HIS INVENTIONS

HOW MANY OF EDISON'S INVENTIONS CAN YOU NAME?

Phonograph*
Light bulb* *Students usually name these
Movies*
Automatic Telegraph
Electric Generator
Electric Train
Batteries
Waxed Paper (to record super-fast telegraph messages) And
1085 more!

DISCUSS HIS MOST FAMOUS INVENTIONS

THE LIGHT BULB

In what unexpected ways did the light bulb change the world?

Workday becomes 24 hours long
Homework after dark
Buildings get bigger since they don't rely on sunlight
Safer Christmas tree lights and Menorahs
You know when a cartoon character has an idea

THE PHONOGRAPH

Edison used his phonograph to invent the Talking Doll!! Unfortunately, it scared the "bejeebers" out of kids! You can listen to samples here:

<https://www.nps.gov/edis/learn/photosmultimedia/hear-edison-talking-doll-sound-recordings.htm>

"If you invented the talking doll, what would you want it to say?"

THE MOVIES

Movies were invented simultaneously all over the world, esp. France and England. Lots of inventors contributed different parts. But at one time Edison had a monopoly on film distribution!

There are many Edison movies available on YouTube, The Library of Congress and the Edison National Historic Park web sites. Your students may enjoy watching some of them. They aren't long.

THE SNEEZE (<https://youtu.be/2wnOpDWSbyw>), THE KISS (<https://youtu.be/IUyTcqvTPu0>) and THE BUTTERFLY DANCE (<https://youtu.be/JWOWkgsW8IY>) are some of my favorites. THE GREAT TRAIN ROBBERY (<https://youtu.be/JWOWkgsW8IY>) was the first feature length movie. It's fun to watch but there are corny gunfights that some schools may object to.

IMPORTANT: Steer clear of anything with "Edison" and "Elephant" in the title. An Edison film crew recorded the electrocution of an elephant at Coney Island. (It had killed 3 men.) People think Edison killed the elephant because his name appears on the film title page. Not true. It's a really gruesome spectacle no matter who did it. Steer clear.

THE FOUR LESSONS OF EDISON

WORK HARD AND PLAY HARD

Make time for both! Especially in a time like this, it's important to schedule time for both. Do you have a hobby? Share it with the other students.

THERE ARE NO MISTAKES AS LONG AS YOU LEARN FROM THEM

"I haven't failed. I've found 10,000 ways that don't work!"

Think of a mistake you've made. Instead of thinking of it as a mistake, try to find a lesson you can take away from it. Can anyone share a mistake? Can we help you find a lesson in it?

LOOK AT YOUR PROBLEMS FROM A DIFFERENT ANGLE

Thomas Edison's laboratories burnt down in 1914. In the middle of the burning, Edison turned to his son and said, "Go get your mother! You don't see a fire like this every day!" And he told his workers, "Although I'm over 67 years old, I'll start all over tomorrow!" And all 4000 of his workers showed up the next day to re-build.

(All kids think differently. That's why you teach them different ways to do math, read, etc. You teachers know this much better than I do. I couldn't do my 3rd Grade son's math homework! So, I'll leave this one to you!)

Think of a problem that you've had. Is there a different way to approach it? Is it really a problem or an opportunity?

FIND SOMETHING YOU LOVE TO DO IN YOUR LIFE AND MAKE SURE YOU DO IT YOUR WHOLE LIFE LONG

"I never did a day's work in my life. It was all fun!"

This seems to be the one that always makes parents sigh, "I wish someone had taught me that!" Surprisingly, teachers seldom respond that way. Really. As hard as it is, teachers seem to have a real calling for their jobs.

The 3 golden rules of finding the right profession seem to be: 1) Find something you enjoy, 2) Find something you're good at and 3) Find something they'll pay you for! (I'm always working on #3!)

Especially in times like these it's very important to encourage kids in their hobbies. Refer to Lesson One! And so often the hobbies become careers.

BE AN INVENTOR!

Inventors solve problems. Real problems.

To get ideas for Science Fairs, organizers sometimes ask kids to carry pencil & paper to jot down things that bug them...a Bug List. A list of Problems! Participants use their bug list to come up with invention ideas.

If you could invent anything in your imagination, what would you invent?

Draw a picture of it.

RUBE GOLDBERG

Rube Goldberg was a cartoonist famous for making outlandish inventions: incredibly complicated machines to accomplish simple tasks. Students find them very entertaining. There are a million web sites of his illustration. Remember the game MOUSETRAP? That's a Goldberg machine. And all those videos of giant domino races.

Edison kept lists of invention ideas.

Edison wrote everything down. He was as avid diarist (like so many historical figures). He left a store of 5,000,000 personal papers. The largest in history. They're still cataloguing it at Rutgers University at their THE EDISON PAPERS project (great web site!)

Word Association Exercise

Make two columns of random words. Challenge students to draw lines connecting a word from each column. Now figure out an invention using both words!

Bubble	Basketball
Chocolate	Bologna
Old	Suit
Red Hot	Car
Waterproof	Flag
Yellow	Dog
Sharp	Doll
Delicious	Friend
Pretty	Shoes
Four-Wheeled	Strawberry

"To invent you need a good imagination and a pile of junk!"

Empty a box of Legos, a junk drawer, anything with a lot of parts. Start inventing!

ADULT EDISON BOOKS FOR ADULTS

EDISON by Edmund Norman, 2020

Probably the best written of the Edison biographies. But, for a trite reason revealed at end of book, he wrote it in reverse chronological order! I would definitely recommend reading chapters in reverse order.

EDISON-A Biography by Matthew Josephson, 1959

The Edison family thought that this book really captured Edison's personality.

THE VAGABONDS: The Story of Henry Ford and Thomas Edison's Ten-Year Trip, by Jeff Gund, 2019

Detailing camping road trips by the pair followed by newspapers at the time. Pretty interesting if you are an Edison geek like me. Primarily notable for illustrating Edison's fame and Ford's hero worship.

THE WIZARD OF MENLO PARK: How Thomas Edison Invented the Modern World by Randall Stross, 2008 Pretty standard bio. But it really captures Edison's profound influence on his world.

EDISON: A Life by Paul Israel, 2000

Written by the man who runs the Edison Paper Project at Rutgers University. So he has info nobody else is privy to. First book I read and one of the best! And he's still at The Edison Paper Project if you want to ask him a question! First rate adult lecturer on Edison too.

THOMAS EDISON: A Streak of Luck by Paul Conot, 1986

Hard to find but a very different type of book. Author's premise is "Edison got lucky." He wasn't a genius. He was just lucky. And whatever fame he didn't gain by luck, he stole. Like I said, a really different book about Edison.

EDISON: Inventing the Century by Neil Baldwin, 1995

Pretty good but not my favorite. Got some facts wrong. Pretty standard fare.

CROSSWORD ANSWERS

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

MORSE CODE ANSWERS

ALVA
WIZARD
MISTAKES
APPLE PIE

Thank you very much for allowing me to visit with your students in this new virtual format. If you have any comments or suggestions, please pass them along. As Michelangelo famously said at 85, "I'm still learning." As are we all!

And thank you very much for all of your hard work. The pandemic has really turned the world upside-down. And I can't think of anyone whose job was changed so much as teachers. I really don't think you've gotten the credit you deserve. I used to think teachers were among the hardest working people I knew. And that goes triple now.

All best,



Patrick Garner's HISTORY'S ALIVE!
(...And Now VIRTUAL!)
edison@historysalive.com
973-420-5268