



The Mini Page

Betty Debnam, Founding Editor and Editor at Large

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A Telephone Milestone

Calling Near and Far

Do you have a cellphone in your pocket? If not, your parents or older brothers and sisters probably carry one.

If you had been a kid just 20 years ago, it would have been unthinkable for you or a teenager to carry a cellphone. In 1995, about 33 million people in the United States, or about 12 percent, had cellphone service. In 2014, about 90 percent of adults had cellphones.



In 1995, many cellphones looked something like this. They were about the size of some current home cordless phones.

Just imagine

Today, we take it for granted that we can call across the country or around the world easily. But just 100 years ago, making a transcontinental phone call was the next big communications challenge.

On Jan. 25, 1915, two telephone calls between the East Coast and the West Coast of the United States were celebrated.

This week in The Mini Page, we find out more about the evolution of the telephone and those important calls.

International Morse Code

A	• —	U	• • —
B	— • • •	V	• • • —
C	— • — •	W	• — — •
D	— • •	X	— • • —
E	•	Y	— • — —
F	• • — •	Z	— — • •
G	— — • •		
H	• • • •		
I	• •		
J	• — — —		
K	— • —	1	• — — — —
L	— • • •	2	• • — — —
M	— —	3	• • • — —
N	— •	4	• • • • —
O	— — —	5	• • • • •
P	• — — •	6	— • • • •
Q	— • — • —	7	— — • • •
R	• — • •	8	— — — • •
S	• • •	9	— — — — •
T	—	0	— — — — —



Morse code uses dots and dashes to send messages. A dash signal is three times longer than a dot signal. Today, operators use automatic machines or computers to tap out the code. This “straight key” device is from the World War II era.

People can use Morse code to send messages with mirrors, flashlights or radio signals, too, especially in an emergency. The signal for SOS, a distress call, is:



Before telephones put us all in touch

Before the telephone was invented in 1876, people could speak to each other in person or write letters. But the mail was slow, and it was expensive to send a letter.

Urgent messages could be sent by **telegraph** in the U.S. by the mid-1800s. This system used **Morse code**, or dots and dashes that were tapped

onto a machine. The receiving machine would tap the coded message onto paper, and an operator would translate it.

But people had to go to a telegraph office to send a message. Only one message could be sent at a time, and the system didn't always work well.

What's the Message?

The Western Union Telegraph Company
21,000 OFFICES IN AMERICA

This Company **Transmits** and **Delivers** messages only on conditions limiting its liability, which have been assented to by the sender of the following message.

• - - -	}	_____	
•			
• - - • •	}	_____	• - •
- - - -			•
• • • -			• -
•			- • •
- - - -	}	_____	•
• • -			• - •
• - •			• • •
• - •			

Using the Morse code chart, try to decode this message to you from The Mini Page! In the blanks, fill in the words represented by the code.

_____ !

Answer: We love our readers!

'Mr. Watson, come here!'

It was Alexander Graham Bell who first made a telephone that would transmit voices. He wanted to make a telegraph that could send more than one message at a time. He thought the human voice could also be sent over a wire.

In March 1876, he was working with Thomas Watson, an assistant. He said, "Mr. Watson, come here. I want to see you." Watson was in another room, but he heard Bell's voice through the machine they were working on. They had invented the telephone!



Alexander Graham Bell made the first long-distance phone call from New York to Chicago in 1892.

The two inventors kept working on their machine, and a few months later, they spoke to each other from different towns.

Ready Resources

The Mini Page provides ideas for websites, books or other resources that will help you learn more about this week's topics.



On the Web:

- bit.ly/1rUS2tv
- bit.ly/1yRNVh8
- bit.ly/1tSwrfj

At the library:

- "Great Inventions: The Telephone" by Marc Tyler Nobleman

Telephones



Basset Brown's

Try 'n' Find

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

Words that remind us of telephones are hidden in the block above. Some words are hidden backward or diagonally, and some letters are used twice. See if you can find: AMPLIFY, AUDION, BELL, BUTTON, CELLPHONE, COAST, COMMUNICATIONS, CORDLESS, DIAL, EXCHANGE, MORSE, NUMBER, OPERATOR, SIGNAL, SWITCHBOARD, TALK, TELEGRAPH, TELEPHONE, TOWER, WATSON, WIRE.



Mini Spy

Mini Spy and Basset Brown are making plans on their cellphones. See if you can find:

- | | | |
|-----------------------------------|--|-------------------------------------|
| <input type="checkbox"/> ruler | <input type="checkbox"/> bell | <input type="checkbox"/> strawberry |
| <input type="checkbox"/> carrot | <input type="checkbox"/> word MINI | <input type="checkbox"/> pumpkin |
| <input type="checkbox"/> sailboat | <input type="checkbox"/> arrow | <input type="checkbox"/> pencil |
| <input type="checkbox"/> snake | <input type="checkbox"/> kite | <input type="checkbox"/> number 8 |
| <input type="checkbox"/> heart | <input type="checkbox"/> man in the moon | <input type="checkbox"/> spider |
| | | <input type="checkbox"/> letter A |
| | | <input type="checkbox"/> saw |



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Rookie Cookie's Recipe Pizza Biscuits

You'll need:

- 1 (10-count) package refrigerated biscuits
- 5 tablespoons tomato sauce
- 1/2 tablespoon Italian seasoning
- 1/4 cup mozzarella cheese

What to do:

1. Place biscuits in pockets of a greased muffin tin (larger size). Press biscuits flat.
2. Mix Italian seasoning into tomato sauce.
3. Spoon 1/2 tablespoon of mixture on top of each pressed-down biscuit.
4. Sprinkle cheese evenly over all biscuits.
5. Bake at 350 degrees for 10 to 12 minutes or until done.

You will need an adult's help with this recipe.

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Meet Filip and Dalila



photo courtesy PBS

Filip Geljo plays Agent Otto and Dalila Bela plays Agent Olive in the PBS series "Odd Squad." In this series, detectives investigate weird happenings and use math to save the day. On Jan. 19, PBS stations will air a special episode of "Odd Squad." It will repeat on Jan. 23.

Filip, 12, has acted in a short film with his father, actor Jasmin Geljo. Filip's favorite subject in school is math. He is captain of his basketball team and enjoys soccer, swimming and tennis.

Dalila started acting in commercials when she was 5 and has appeared in several TV shows. She has also acted in several movies, including the "Diary of a Wimpy Kid" films.

Dalila loves to travel with her parents and two younger brothers, and she speaks four languages. She loves reading, creative writing, playing the piano, swimming, singing and dancing. Filip and Dalila both live in Toronto.

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Mighty Funny's Mini Jokes

All the following jokes have something in common. Can you guess the common theme or category?

Zelda: What do you get when you cross an ape man with a zebra?

Zebadiah: Tarzan stripes forever!



Zeke: What do you get when you cross the Little Dipper with a zebra?

Zara: Stars and stripes!

Zena: What is black and white with red polka dots?

Zero: A zebra with the measles!



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Gus
Goodsport's
Supersport



Height: 6-10
Age: 21
Hometown:
Chicago, Illinois

Anthony Davis

Anthony Davis has quickly become an NBA superstar in just his third season of professional basketball. With his trademark "unibrow," Anthony was a standout at the University of Kentucky during the 2011-2012 season, helping the Wildcats capture the school's eighth NCAA national championship. He was the first overall pick in the 2012 NBA Draft, selected by the New Orleans Pelicans.

Despite battling injuries in his first two seasons, Anthony proved his versatility. Last season, he led the league in blocked shots, his specialty. His efforts led to his 2014 selection as an NBA All-Star to replace an injured Kobe Bryant.

This season, Davis has been a force on both sides of the ball. Through the first 20 games, he was among the league leaders in several categories, averaging 24.8 points on 57.1 percent shooting and again leading the league in blocks, with 2.9 per game.

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Talkin' Telephones

Telephones take off

Telephones became popular very quickly. By 1915, more than 10 million telephones had been installed in the United States.

Early telephones were connected through an **exchange**. Operators sat at a **switchboard**. A caller talked to the operator first, asking to be connected to another person.

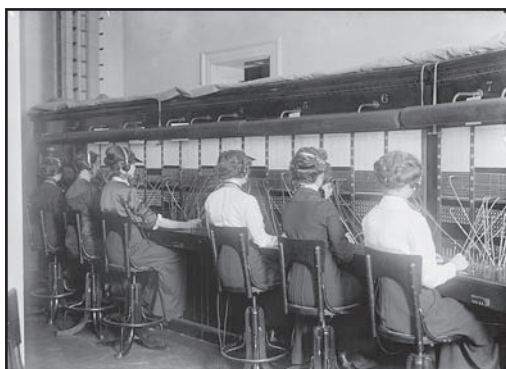


photo courtesy Library of Congress

Telephone operators in the early 1900s connect callers at a switchboard.

What's your number?

When machines took over the switching of calls, customers got unique phone numbers and used a dial to contact each other. Operators were used only for long-distance or other special calls.

As you dialed a friend's phone number, the phone read the signals and sent the call to the correct number.



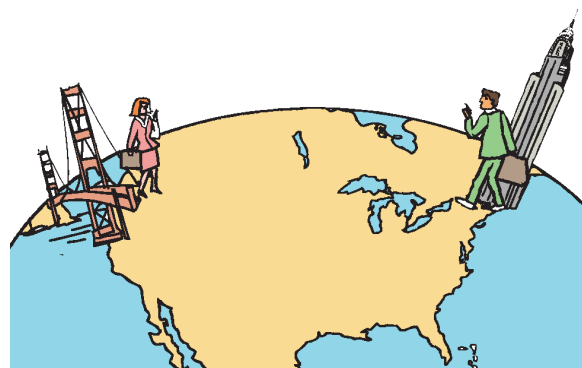
© Aeolos | Dreamstime.com

Next week, The Mini Page gets caught up with dinosaurs.

Calling across the country – and the world

In 1908, the president of AT&T had a goal of making coast-to-coast phone calls possible. Engineers had to figure out how to **amplify**, or increase, the electrical signals as they traveled along the wire.

A physicist named Lee de Forest invented a vacuum tube called an **audion** that boosted the signals. AT&T began building telephone wire poles from Denver toward the west. The lines east of Denver were upgraded with the vacuum tubes.



On Jan. 25, 1915, in New York City, Alexander Graham Bell repeated his famous line, "Mr. Watson, come here. I want you." But this time Watson was in San Francisco, almost 3,000 miles away!

According to an article from The New York Times, a three-minute call between New York and San Francisco would have cost \$20.70 at that time. That would be \$477.64 today!

In January 1927, calls between New York and London became possible.

How does it work?

A telephone changes your voice into electrical signals. The signals are sent over a wire to another telephone, which changes the signals back into your voice for the person on the other end.

In cordless telephones, the handset sends radio waves to the base unit, which sends the signals over a wire.



Cellphone signals are sent by radio waves to a cell tower. The radio waves are transferred from tower to tower, then to the receiver's phone.

Telephone improvements connect even more people

- 1946: First mobile phone call (from a vehicle)
- 1964: Push-button phones introduced



- 1973: First call from a handheld mobile phone



photo courtesy FCC

Dr. Martin Cooper with his invention, the first handheld mobile phone.

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