Alexander Graham Bell

The lives of well-known men and women have influenced and shaped our history. In the Pocket Biographies, we meet many of these people whose contributions to science, government, medicine, sports and entertainment have deeply affected all of us. Their achievements support the famous statement of Thomas Carlyle: “Biography is the only history.”
Alexander Graham Bell

Contents

The talking dummy 11-16
Lectures and experiments 17-23
The telegraph 25-29
The telephone 31-44
Quiz yourself 47-53
In 1876, a great fair was held in Philadelphia. The guest of honor was the emperor of Brazil. He tried a new invention that allowed a voice to be carried over a wire.

The emperor thought it was the most interesting thing in America. But most people thought it was only a toy, without any real use.
The Talking Dummy
The crowds would rather look at the hand of the Statue of Liberty... or the Corliss engine, the greatest steam engine ever built.

President Grant and the emperor of Brazil will now open the fair by starting the engine.

But the fair was many years in the future. Alexander Graham Bell was born in Edinburgh, Scotland, on March 3, 1847. His family had a great interest in music and speech.

Young Aleck was given piano lessons. The boy has a good ear for music.
From his father, who was a teacher in London, Alack took lessons in speech.

"To be or not to be—that is the question!"

No, no, my boy! That's not quite right!

One day, Alack's father told him about a dummy that had been built to speak.

Would you like to see it?

The voice is real. The inventor has written a book explaining how it works.

Very much!

How-do-you-do. I hope you are well.

It really does work!

At home, Mr. Bell made his two older sons an offer.

Boys, if you can make a dummy that talks, I'll give you a prize!

Great! We'll do it!

We don't know how the other dummy works, but we should be able to figure it out. Let's use father's books.

You work on the throat. I'll make the head with the mouth and tongue.

The boys worked for days. At last Melville blew air into the throat.

Maaaa-maaa! It works!
Mr. Bell was pleased.

Boys, I am proud of you. You could not have done this without understanding how people speak.

Mr. Bell’s three sons all grew up to become speech teachers. But both of Aleck’s brothers died early.

Someday doctors will be able to help. Right now we know very little about tuberculosis.

Two of our boys are gone!

But what about Aleck?

He is thin and pale. I am afraid he is ill, too.

As a young man, I was sent to Newfoundland for my health. I was cured! We must take Aleck there at once!
So Mr. Bell gave up his work in London, and they sailed for Canada. Aleck played the piano in the ship's concert.

They reached Quebec, Canada, on August 1, 1870.

Smell that air! You'll be well in no time.

I'm sure you're right.

They settled near Brantford, a town in Ontario.

We'll hang a hammock here, Aleck.

This will be a great place to sleep.

In Ontario, Aleck rested. He also studied and thought.
During the winter, he felt well enough to try some of his ideas.

I hope to work out a new way to send several messages at once over one wire. That would be of great value!

In April, Mr. Bell was asked to go to Boston to talk to teachers of the deaf.

I've promised to teach here in Canada at that time. Perhaps you could go to Boston in my place, Aleck.

I think I am well enough!

You know my ideas as well as I do!

So in April, 1871, twenty-four-year-old Alexander Graham Bell traveled to Boston.

Now that I am well again, I can get back to work. I have so many ideas.

Aleck went to the Boston School for the Deaf. The principal, Miss Sarah Fuller, met him at the door.

Come in, Mr. Bell! We need your ideas here!

Soon Aleck began his lectures.

The sounds of the lion and the house cat are made in the same way.

Thank you, Father. I would like to go to Boston.
This is an alphabet of speech which can be used for the deaf.

Aleck held classes for deaf children.

If he can copy the way my lips move, he may be able to make the sounds.

But he spent his nights working on his own experiments.

He spoke of what he had learned to Thomas Sanders, the father of one of his students.

So Sanders began to give Aleck money for his experiments.

One day, Gardiner Hubbard, a Boston lawyer, spoke to Aleck about his sixteen-year-old daughter.

Mabel has been deaf since childhood. She reads lips well, but she needs help in speaking.

 Perhaps I can help her teacher.

Hubbard, too, wanted to give Aleck money for his work.

Soon Aleck was visiting the Hubbards every week—but not to teach. He and Mabel were in love.

As soon as I have enough money, we can be married.

This part is not quite right. I wonder why they made it like this.

Later, Aleck visited a shop where inventors could have parts built for their experiments.

It wouldn’t take so very much, would it?

This part isn’t made the way I wanted it.

I made it that way because, from my study of electricity, I thought—

Aleck went to where Thomas A. Watson was working.

Thank you, sir!

If you need money for your work, I’ll be glad to help you!
The Telegraph
You've studied electricity? Then perhaps you can tell me...

The two men talked for hours.

Everybody's leaving. It must be dinnertime!

Come to my house and have dinner with me.

Soon they were spending most of their evenings together, working on Alack's new telegraph.

It should work! It's a matter of getting everything to work at the same time.

That's it, all right!


There's another idea I want to try. Maybe we could find a way to send speech over a wire instead of these long and short sounds.

I think we could!
Your father thinks
my telephone idea
is foolish. If I stick
with it, he may not
let us marry!

No one
can keep
us apart.

Mr. Henry
listened to
Aleck's ideas
for the new
telegraph. He
was so inter-
ested that
Aleck told
him his ideas
about the
telephone, too.

So Aleck went to Washington to get a patent
in his telegraph. Then he went to see the head of the Smithsonian In-
stitution.

I wonder if Mr. Henry will have
time to see me.

Mr. Henry
welcomed
Aleck.

I have a bad cold.
But come in, Mr.
Bell! I am always
glad to meet
young inventors!

Let's try using
steel reeds.

All spring
they worked
very hard.
Then one
evening . . .

What did you do?
Don't change a
ing thing! Let me see!

One of the reeds
was stuck. I
plucked it to
loosen the end!

Should I write about
my idea and let others
work it out? Or should
I try to do it myself?

You have the
start of a great
invention! Build
it yourself!

But back in Boston, Aleck went
on working on the telegraph.

You stay here.
I'll listen on
the other end.
The Telephone
But that's it—what we need for the telephone! What I heard sounded almost like a voice.

Each time they plucked the reed the sound was the same.

Do you hear? It's like a voice without words!

Yes, you're right!

They were finally on their way to building the telephone.

Could you make up some simple models tomorrow?

I think so.

Much work lay ahead. Aleck gave up his classes for a while. Watson gave up his other work. They tested one model after another.

I've brought you a gift—your picture.

Do you like it?

A night owl! Well, I won't always be one.
Often during the summer, Aleck didn’t sleep. Sometimes he forgot to eat. One night he fainted, and Watson went for a doctor.

He rested and thought about the problems they had been having with the telephone.

My telephone works, but the voices are not loud and clear.

So once again Aleck went to Canada for his health.

At least I have time now to get my papers in order and to apply for a patent.

The following March, 1876, he was given a patent on the first telephone.

That same month he returned to Boston.

I have a new idea to try: a battery that will give more power to the voice.

Go to the far room and listen while I try to talk to you.

Watson ran to the other room.

I spilled the battery acid.

Never mind that! I heard you! It was clear—every sound!

Mr. Watson, come here! I want you!

Alexander Graham Bell
POCKET BIOGRAPHIES

Alexander Graham Bell

Then the men changed places. They tried the test again and again. It was the world’s first telephone conversation.

Aleck told Mabel about the telephone.

Oh, Aleck! You must show it at the fair in Philadelphia!

It was June. In Philadelphia, the heat was terrible.

Look! Here come the judges!

The crowds have not bothered with the telephone. Let’s hope the judges will!

The judges came to the next exhibit.

This heat is too much! Let us put off the rest until tomorrow!

Well, that’s it! I must return to Boston tonight.

A fine idea!

And I can’t show the telephone by myself!

One of the judges was the emperor of Brazil. He saw Aleck.

Why, Mr. Bell! I met you in Boston! What are you showing here?

My new invention—a telephone. But tonight I must return to Boston.

Aleck went to the far end of the hall where wires were strung up. The emperor listened.

Hold it close to your ear! It talks!

Everybody tried it. It worked! The judges were pleased, and Aleck was happy.

Then we must see it now! Judges, there is one more exhibit we must see today—Mr. Bell’s telephone.

You will win the prize, of course. This telephone is the best thing I have seen in America!
Aleck did win the prize. Scientists thought his telephone was wonderful, but most people were not interested at all.

Today I offered to sell my patent on the telephone. But no one would even look at it.

If the scientists think so much of it, it must be useful.

but that doesn’t give us any money. We still can’t be married!

Perhaps the talk you’ve been asked to give in Massachusetts will stir up interest.

If people like it, I can give other talks and charge people to listen.

On February 12, Aleck stood before a group of people in Salem.

The telephone is connected by wire with my laboratory in Boston. Mr. Watson will speak to you from there.

Hurray! He’s singing!

"In days of old I sang..."

Will you sing for us?

Hello, Mr. Bell! It gives me great pleasure to talk to Salem, twenty miles away!

That’s fine! Why do you look unhappy?

I’ve been asked to go to England to help form a telephone company there.

Well... you’ve been waiting a long time now.

It’s too far away. I don’t want to leave Mabel!

We’ll have a wedding here, and I’ll send Mabel to England with you as a wedding gift!
In London they rented a house. Many people came to see them.

Could we hear your telephone?

We have a wire strung up between here and my study. If you will go with Mabel, . . .

I can hear Mr. Bell playing the piano. How wonderful!

Mabel answered the letters that arrived.

This group wants you to give another talk. They loved your first one.

And another group wants you to show the telephone to fifty thousand people at once.

Oh, Aleck! You are invited to show the telephone to the Queen!

The wedding was held on July 11, 1877.

Ah, Aleck . . . you've given me your telephone!

It's not worth much now, but maybe someday . . .

We'll spend two weeks in Scotland, then go on to London!

Someday the whole world will be different because of your telephone!
In May, Mabel had to take time off from her letter writing.

Later, there was good news from America.

Many people are putting in telephones. Business is good!

The Bells sailed back to America so that Alec could defend his rights.

You have a fine daughter, Mr. Bell. Both mother and baby are doing well!

Then came some bad news.

Western Union has started selling telephones! They say they invented it first!

That’s impossible!

I’m sick of the telephone! I think I’ll go back to teaching.

Let’s wait and see what happens.

In Canada, Watson met them at the ship.

In 1880, the French government gave Alec a prize of $10,000.

In 1880, the French government gave Alec a prize of $10,000.

I’ve come to take you to Boston.

But it wouldn’t be right to let those people steal your invention!

You’re right. It wouldn’t be fair to you or to Mabel. I’ll go with you.

There were more than six hundred lawsuits that tried to take the telephone away from Bell. He won every case, and at last he made money from his invention.

This prize was set up by Napoleon I. It has been given to only one other man since that time.

I am greatly honored!

No, I’m going back to teaching. If those men want the telephone bad enough to lie about it, let them have it!
In 1915, the last connection was made. It joined telephone lines in America from coast to coast. President Woodrow Wilson spoke to the governor of California.

Hello! I greet the great state of California from Washington, D.C.!

And on an exact copy of the first telephone, Aleck spoke from New York to Thomas Watson in California.

Mr. Watson, come here! I want you!

Alexander Graham Bell never stopped inventing things. He died on August 2, 1922, after a long and happy life.

Do you remember?

Early in his life, Alexander Graham Bell worked with people who were:

- a. blind
- b. deaf
- c. seasick

In perfecting his new telegraph, Bell worked with Thomas Watson, who knew about:

- a. electricity
- b. cooking
- c. music
Quiz
Yourself

The telephone was first shown to the public at:

a. the Crystal Palace in London.
b. a great fair in Philadelphia.
c. Disneyland.

The first coast-to-coast telephone call was made in 1915 when the president of the United States was:

c. Thomas Jefferson.

(Answers at end of section)
Words to know

hammock a swinging couch or bed often hung between two trees
future the time still to come
concert a show in which music is played for the public
apply fill out papers to ask for something
phonograph record player

Can you use them?

Using the words above, complete the following sentences.

1. During summer afternoons, he liked to lie in the ________.
2. Some people like to spend their evenings at home listening to the ________.
3. After finishing high school, many students decide to ________ to a good college.
4. During warm weather, a ________ might be held outdoors so more people can attend.
5. Everyone should set goals for his ________.
Using pictures

In reading illustrated stories, you will find it helpful to "read" the pictures as well as the words. Look at this picture of Aleck's father giving him speech lessons. Aleck's parents taught him that learning anything meant hours of practice. They often made up tasks or lessons for him that would one day help him come up with ideas of his own. Now look at pages 43 and 44 to see how Aleck was able to use in his own teaching what his father had already taught him.

While you are reading

As a child, Alexander Graham Bell often learned something by doing it. While you are reading, make a list of the things Aleck did as a boy or a young man that helped him become an inventor in later life.

How well did you read?

When you have finished reading, answer the following questions.

1. Why did Aleck's parents decide to move to Canada when Aleck was a young man?
   (Check the correct answer.)
   a. Aleck's father had been offered a job there.
   b. Aleck's brothers were already living there.
   c. Aleck was ill.
   d. Aleck wanted to go to school in Canada.

2. Which of the following people told Aleck to build his own telephone rather than have someone else do it?
   (Check the correct answer.)
   a. his brother, Melville
   b. Mr. Henry
   c. Thomas Sanders
   d. Gardiner Hubbard
3. When did scientists finally become interested in Bell’s telephone?
   (Check the correct answer.)
   _____ a. after it won a prize at a Philadelphia fair
   _____ b. after Aleck showed the telephone to a group in Salem, Massachusetts
   _____ c. while Aleck and Mabel were in England
   _____ d. several years after Aleck’s death

4. Which of the following problems did Bell face after he built the first telephone?
   (Check the correct answers.)
   _____ a. Most people could see no use for the telephone.
   _____ b. Aleck made no money from his invention.
   _____ c. Aleck had to go to court to protect his invention.
   _____ d. Another company started selling telephones.
   _____ e. The telephone never worked as well as he had expected.

5. What accidentally happened one day to give Aleck the clue he needed to build the first telephone?
   (Check the correct answer.)
   _____ a. Aleck became ill and spent his time thinking about the telephone.
   _____ b. Thomas Watson built one of the parts for Aleck’s telegraph differently from the way Aleck had wanted it.
   _____ c. Aleck spilled battery acid.
   _____ d. Mr. Watson tried to loosen one of the steel reeds on the telegraph.

Using what you’ve read

Imagine that you have a chance to talk on the very first telephone. To whom would you choose to speak, and what would you say? Write a brief account of your conversation. Don’t forget that what you say will be remembered by people for many years to come.
NOTES

ANSWER KEY

ALEXANDER GRAHAM BELL

Can you use them?

1. hammock
2. phonograph
3. apply
4. concert
5. future

How well did you read?

1. c
2. b
3. a
4. a, c, d
5. d