

By: M.G. Ron Johnson, Pamela McClure, Tony Salerno & Katherine Vawter



Parent and Teacher Guide

Studies have proven learning is enhanced through the use of several senses. A recent study shows that we retain 10 percent of what we see, 20 percent of what we hear, and 50 percent of what we see and hear. But when we see, hear and do, we retain 90 percent of the information. (Lisa Marie Nelson, Ph.D., Author "The Healthy Family Handbook").

The purpose of this Resource & Activity Book is to help children learn and retain the story theme and principles in a fun and educational way. Your children will love coloring pages, solving puzzles, matching games, completing word searches, and much more! Each Resource & Activity Book also features challenging questions and activities for children from preschool through middle school. And in the rare case you don't know an answer, there's an answer key in the back!

LEVEL OF DIFFICULTY

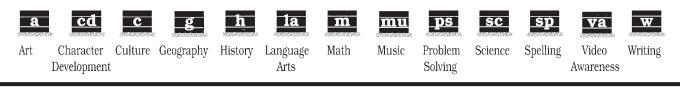
The activities in this book are designed in three levels of difficulty designated by symbols. The activities with one symbol are geared towards younger children while the activities with two and three symbols become increasingly challenging for older children.

Level One Easy **EXACT** Intermediate

Level Three Advanced

CURRICULUM RELATED

These educational activities are related to various educational discipline such as social studies (geography, history, culture), language arts (spelling, creative writing, grammar, literature), math (simple equations), and science. There are also activities for character development, video awareness, problem solving, music, and art. The subject codes below are for your convenience.



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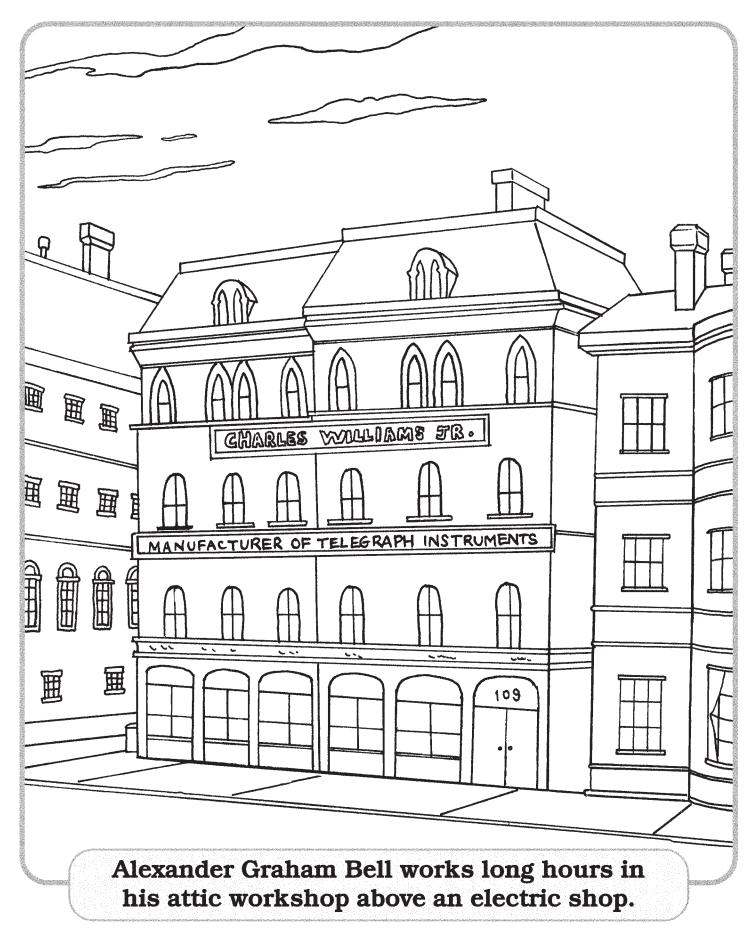
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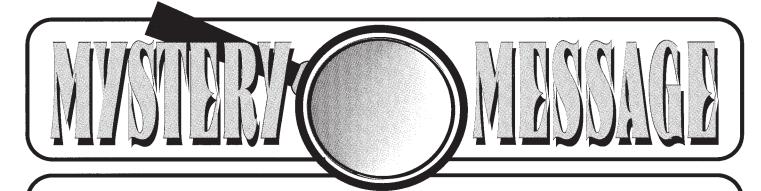
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REFERENCES

For those wishing to further study the life of Alexander Graham Bell, some of the references used in research for the Resource & Activity Book are listed below, along with other titles that may be of interest.

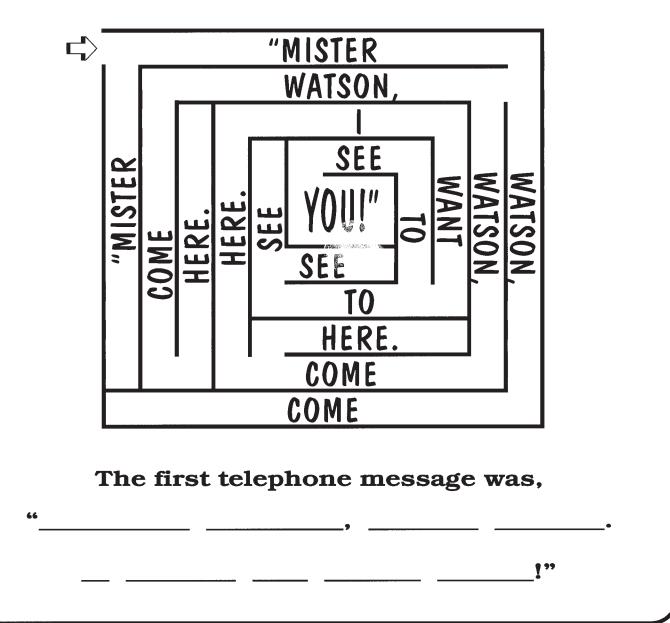
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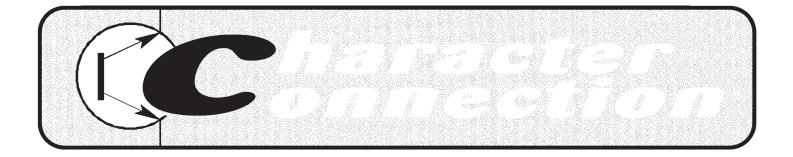


What was the first telephone message sent and received? Alexander Graham Bell spoke the words to his assistant, Tom Watson.

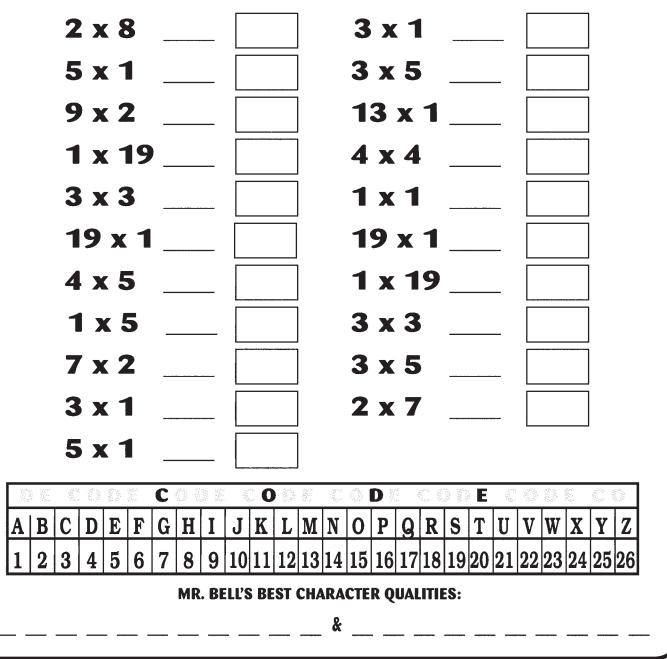
Work the maze below, writing each word as you come to it on the blanks below.

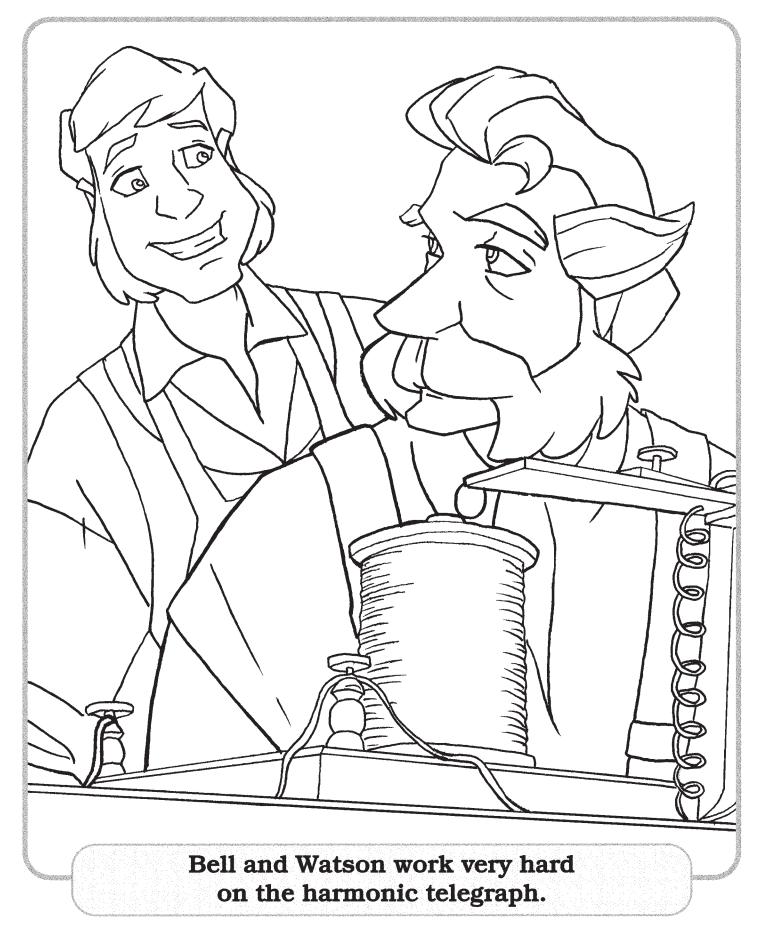


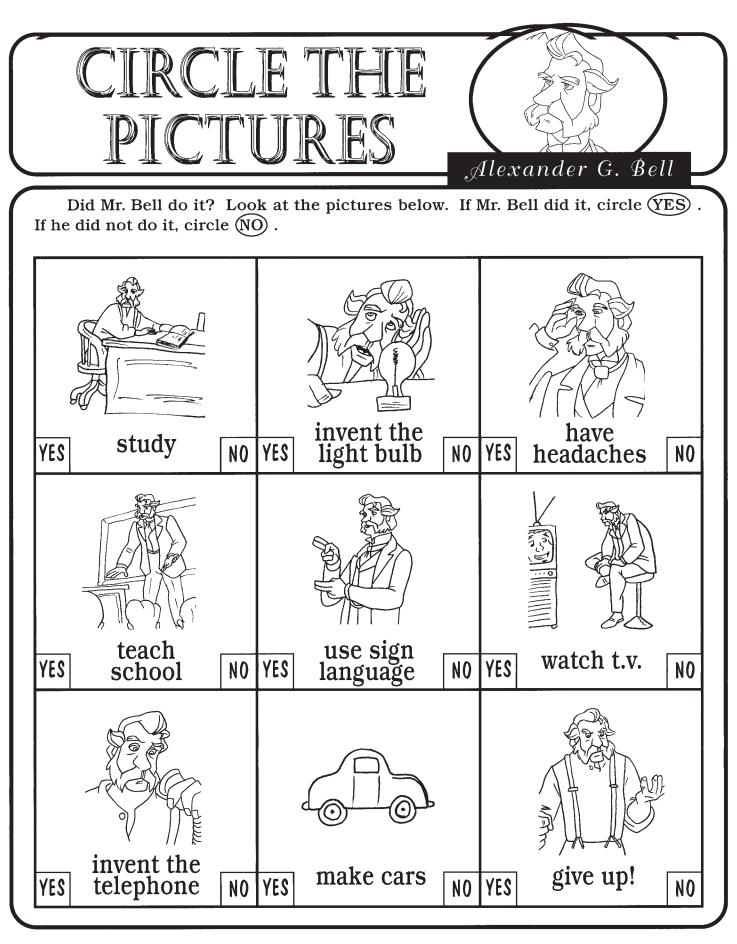
						s wo						10.53555
LIPS REAI TELEGR TELEPH) APH			SIGN SPEAI HEAF SOUN	K R		LA	BRATI NGUA DEAF VOICH	GE		CY INV	TH PIEC LINDER /ENTION CACHER
Α	R	S	Ρ	Μ	Β	S	Τ	L	Τ	V	S	Ο
Μ	0	U	Τ	H	Ρ	Ι	E	C	E	С	Β	Α
V	Τ	E	L	E	G	R	Α	Ρ	Η	Y	R	Μ
Ι	E	Β	A	Α	L	Τ	С	E	Ρ	L	Α	Ρ
Β	L	K	D	R	R	M	Η	V	Η	Ι	Ν	E
R	E	Α	R	M	E	L	E	Τ	Β	Ν	Z	G
Α	Ρ	g	D	E	A	\mathbf{F}	R	S	R	D	Τ	Α
Τ	Η	U	Α	M	D	Β	R	S	Ν	E	L	U
Ι	0	Τ	E	Ρ	S	Α	С	U	E	R	R	G
0	Ν	Α	С	D	Β	g	0	С	S	Ι	G	Ν
Ν	E	L	Ν	Β	Ρ	S	Ι	V	R	U	M	Α
E	S	g	D	R	Α	0	Ν	Ρ	S	Ρ	Ι	L
Ρ	Α	F	Ι	Ν	V	E	Ν	Т	Ι	0	Ν	X
Μ	0	R	S	Β	F	R	Ι	L	D	Α	G	Т



Solve these equations to discover two of Mr. Bell's best character qualities. Use the code below to fill in letters next to each equation.

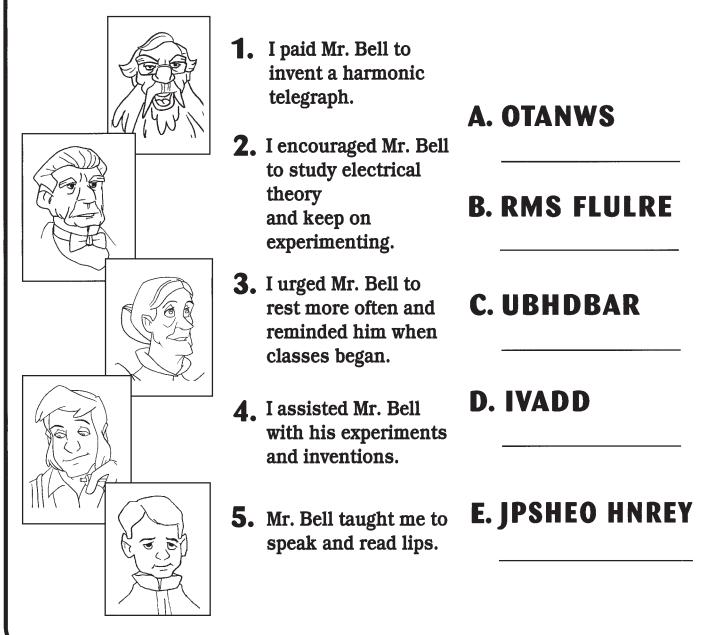








Solve each person's riddle by unscrambling the names of Alexander Graham Bell's friends. Draw a line from each description to the unscrambled name that matches.





Homonyms are words that sound alike but have different meanings. A sample of a pair of homonyms is "die" and "dye."

Look for the pairs of homonyms in the blocks below. When you find a pair, color the entire block. When you finish, you will discover the answer to the riddle below.

Riddle: My first name is sometimes "Liberty," I let you know when visitors arrive at your door, And I was an important American inventor. Who am I?

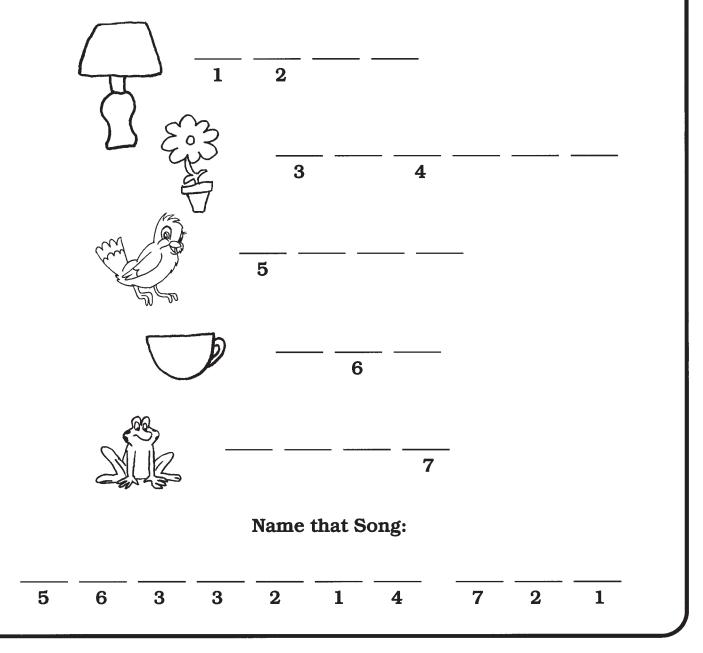
fair fare	stare stair	bow bough		one won	neigh nay	pair pare	no know	stare store	nice neice	bye buy	love dove	sample simple
peal peel	cane cape	whale wail		nourn morn	lick pick	sign mine	bear bare	doze daze	hop hope	night knight	cane can	live dive
wine whine	hair hare	sew new		our hour	ore or	fill Phil	heal heel	when then	up cup	gnu new	type tip	look book
boar bore	show shop	wear ware	'	peak peek	bit bait	men mean	tear tare	thin this	dark park	sew so	stain Stan	like lick
reign rain	site sight	week weak		feet feat	daze days	beat beet	way weigh	I eye	soar sore	doe dough	lie lye	blue blew

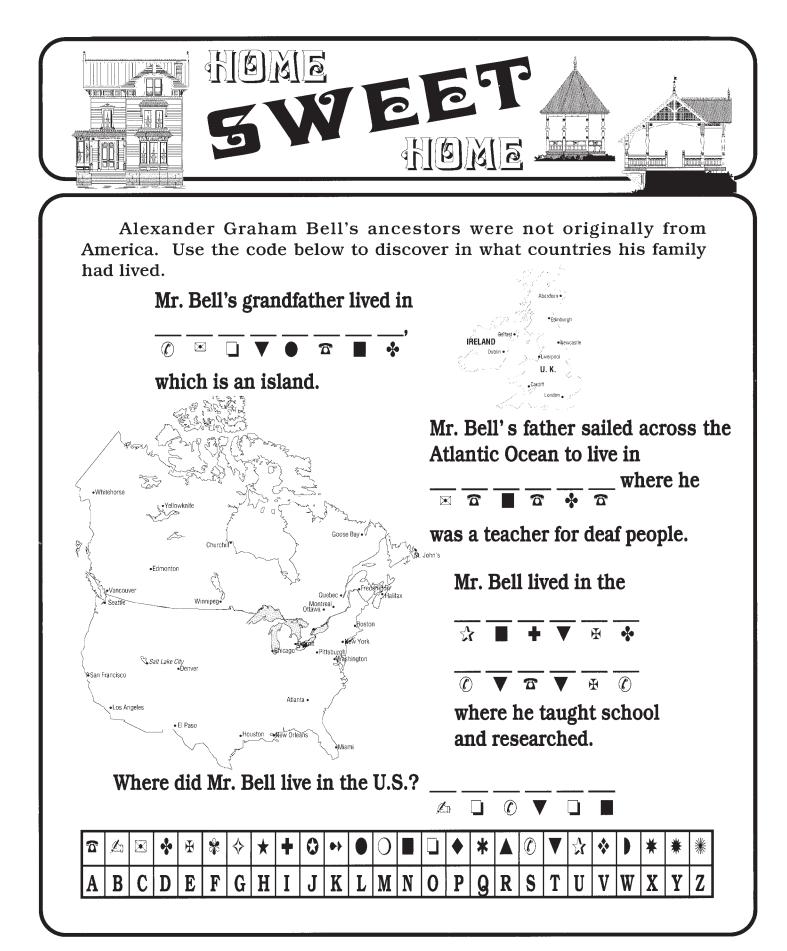




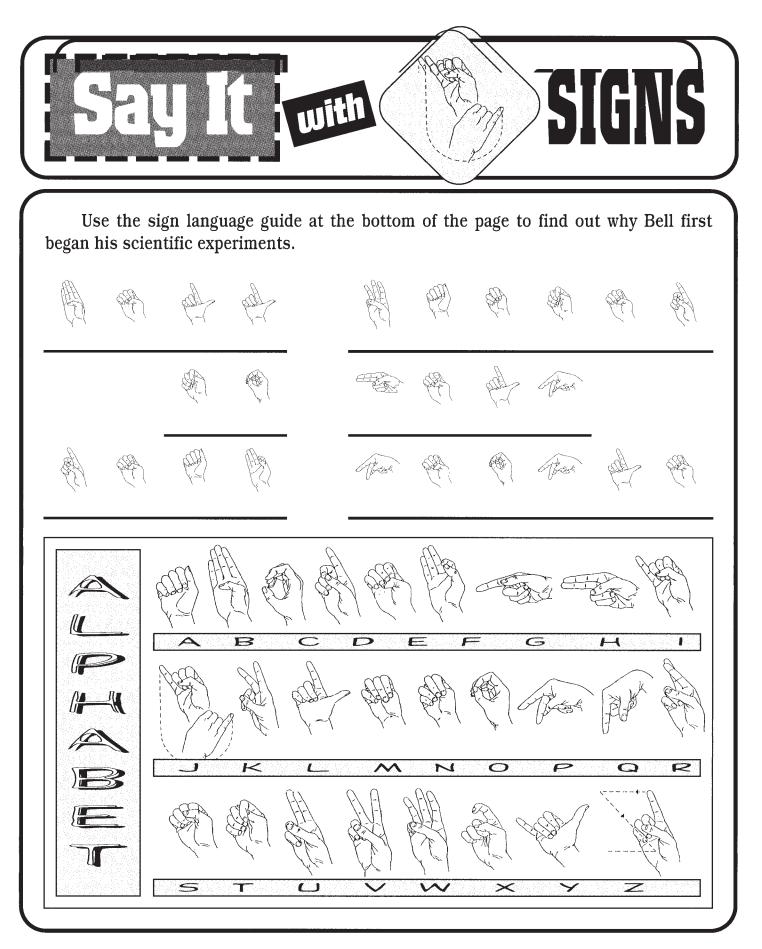
Mr. Watson sang a song while working. He sang it over the telephone wire. Find the name of the song by working the puzzle below.

Write the name of the picture on the blanks. Copy the numbered letters on the blanks with the same number to learn the name of the song.











These things have no sound in them. You can make them sound. Draw a line to match the object with the motion it needs to make sound Sket (SWD)

La construction and a constructi	
Ball	Blowing
Pencil	Snapping
Door	Ringing
Fingers	Pressing the keys
Bell	Spinning
Drum	Slamming
Horn	Bouncing
Piano	Writing
Hands	Winding
Тор	Beating with sticks
Music Box	Clapping

Alexander Graham Bell worked with sounds. Look at the object in the picture. If it makes a sound, circle the (YES). If it does not, circle the (NO). Color the picture. 9 12 NO YES NO YES YES NO YES YES NO NO YES NO YES YES NO YES NO NO

Draw something that makes a sound.



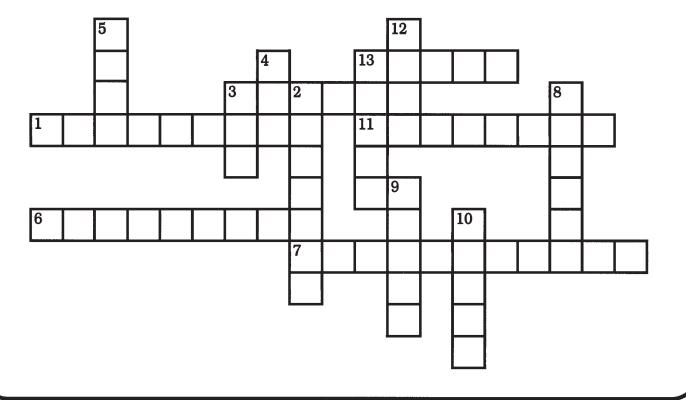
Bell's Crossword

Across

- **1.** Bell invented the first
- 3. The name of Bell's lab assistant.
- 6. Hubbard first paid Bell to create a harmonic _____.
- 7. Bell conducted many <u>created the telephone</u>.
- **11.** Bell is remembered as the ______ of the first telephone.
- **13.** Objects are classified as nouns; action words are classified as



- 2. Bell was a _____ of deaf students.
- **3.** They did not lose; they _____ the game.
- **4.** Mrs. is for woman and Mr. is for _____.
- 5. You only _____ when you stop trying.
- **8** Bell taught school in the city of _____.
- 9. Bell wanted his deaf students to learn to _____ clearly.
- **10.** Bell taught during the day and experimented during the _____.
- **12.** An abbreviation for Pennsylvania is ______.
- **13.** Watson could hear Bell's _____ over the first telephone.



YOU CAN BECOME AN INVENTOR LIKE ALEXANDER GRAHAM BELL! ASK YOURSELF THE QUESTIONS BELOW TO BEGIN YOUR OWN ADVENTURE!

SOLUTIONS

- Are there some products I use that I think could work better? Be more appealing? Be made to do more? Be made for less?
- \Rightarrow Is there something that would make a person's job/life easier?
- What particular problem would I like to solve?

'RO<u>B</u>I - MS

- What subjects should I study before going ahead with my invention?
- ♦ Is this idea really new? Is it practical? Will enough people want this invention to make it profitable?
- \Leftrightarrow Can this invention be made at a reasonable cost?

HERE ARE SOME MORE TIPS FOR BEGINNING INVENTORS:

- Many inventors keep a notebook in which they record ideas, data, results, etc. Use ink and never erase an idea!
- A good inventor must be able to produce many potential solutions to a problem. Then he/she must be able to choose the best idea and pursue it with determination.
- Brainstorming with others is very useful. Even your wild ideas can create new ideas.
- INTERNATIONAL INTERNATIANA INTERNATIANA INTERNATIANA INTERNATIANA INTERNATIANA INTERNATIANA INTERNAT

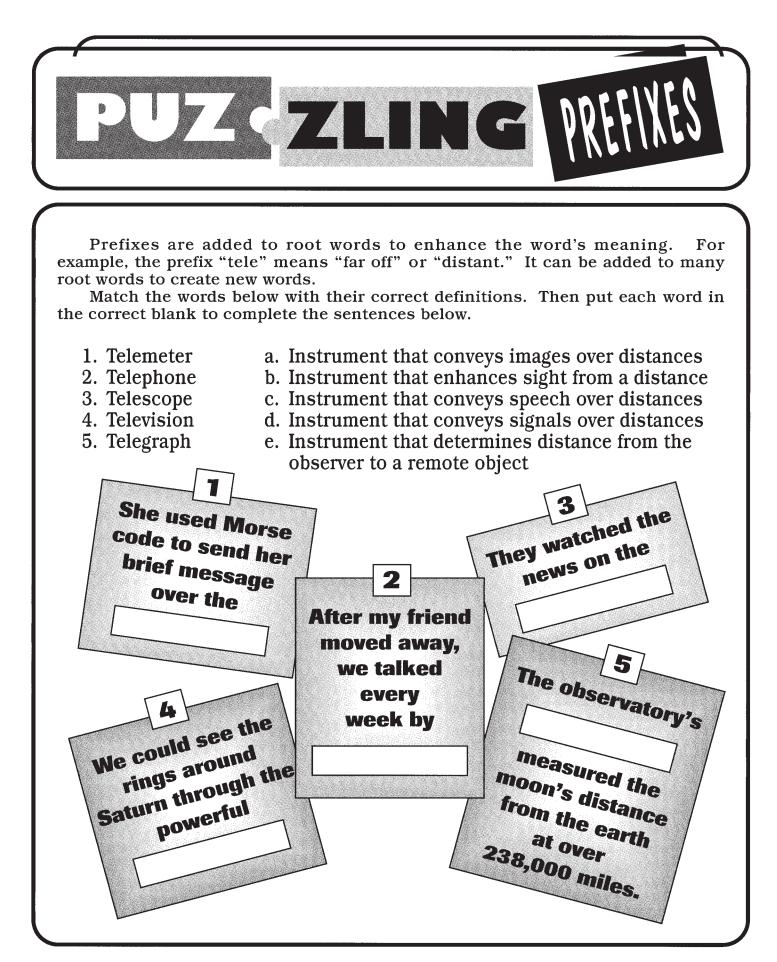


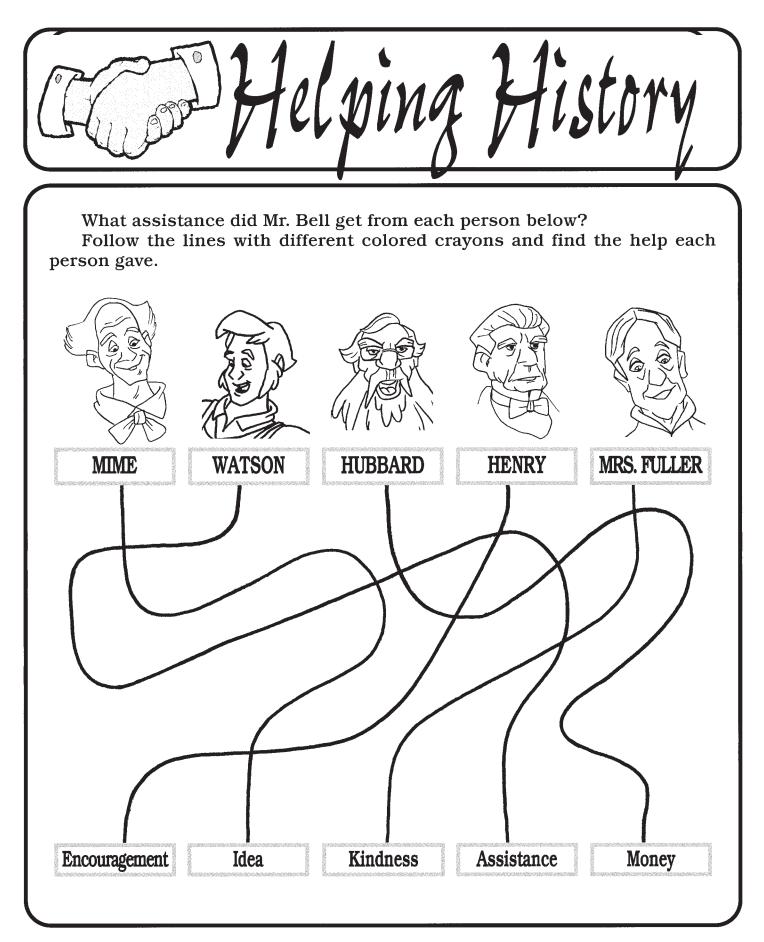
Use the list below to practice brainstorming and thinking like an inventor. Come up with as many unusual uses for each thing as you can:

A paper clip		 	
A balloon	,		
A paper bag			
A jar with a lid			
A shoelace			ACCOUNT ()
A rubber band		 	

Draw a picture of one of your ideas below:









Number the sentences below to describe the events that led Mr. Bell to invent the first telephone. If you put the sentences in the correct order, the first letter of each sentence will correctly spell the name of Bell's homeland.



Then while working on the new telegraph, Bell was inspired with a new idea - what if he could invent a machine that would transmit voices instead of signals?



Careful businessman, Gardiner Hubbard, hired the teacher to invent a harmonic telegraph.



Later, Bell convinced Hubbard to let him work on his new idea, the telephone, instead of the harmonic telegraph.



Only teaching could pull Bell away from his continuous work on the harmonic telegraph.



After talking with Joseph Henry, Bell began studying electrical theory.



Night after night, Bell and Watson tested the telephone until Watson heard Bell call for him.

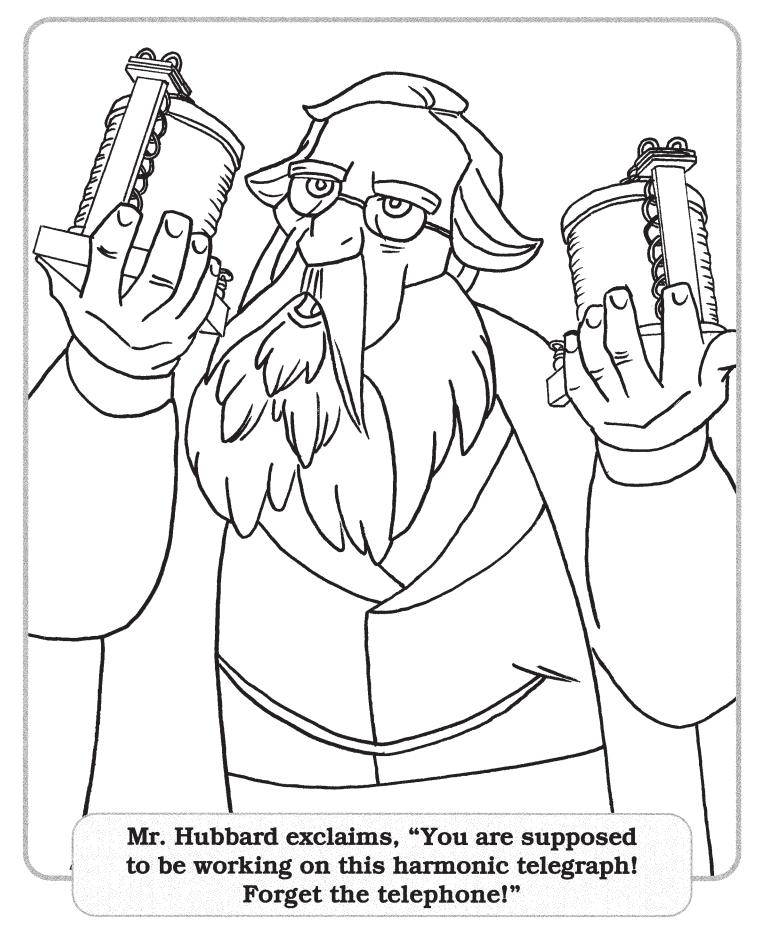


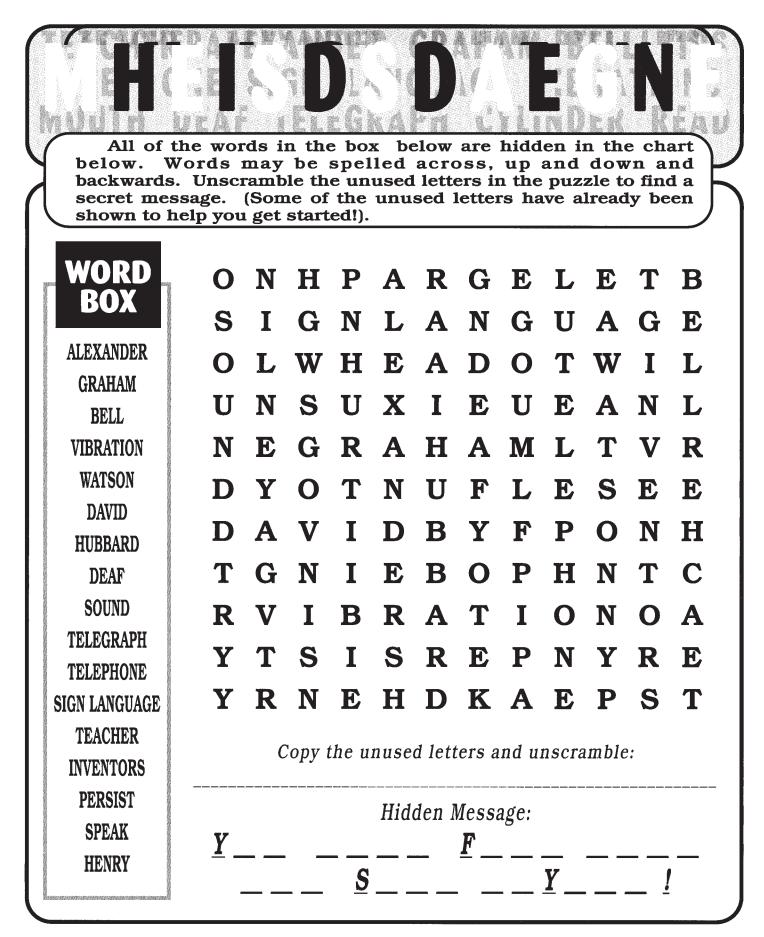
Schoolteacher Bell taught deaf students and loved to help them communicate.



Discovering how to send voices through wires was a great achievement, and Bell continued his experiments with new inventions for many more years.

Mr. Bell's homeland was





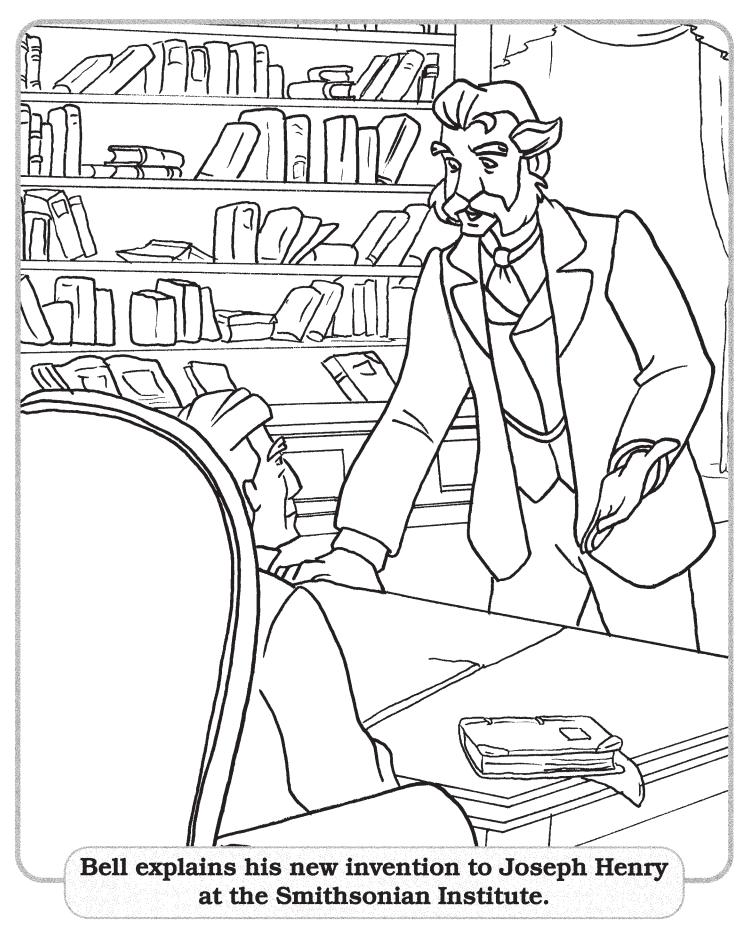


Below is an unfinished poem about Alexander Graham Bell. The word at the end of every other line is missing.

YOU be the poet! Look at each underlined word. Think of a word that rhymes with it. Then write the rhyming word in the blank space to finish the sentence.

	"How Can You Use
	The Telephone?"
	telephone can help us in most every way, find it is useful many times each
	I am at my friend's house and want my Mom, dial the number and there she will
W	hen Tom got hurt at school playing ball, The teacher picked up the phone and gave his mom a
	can call in a car, you can call on a plane, a call from a ship, you can call on a
	n to call your grandma, or a cousin far away, in to call a friend to come over to
	we thank you, Mr. Bell, for the telephone, th it in our house we are never

Find-The-Spelling-Mistakes **INSTRUCTIONS:** Read the sentences below. There The man who furst sent human speech over wirez was are 10 spelling mistakes in actually looking for a way these to help daf peeple. Bell, who sentences. was a teacher at the Boston Circle the school for the Deaf, was the mistakes and write first teacher that Helen the words Keller's parents brot her too. correctly on the Mr. Bell helped many children lurn to speak and to lines below. use sine language. As scientists have continued to studie sound, they have found many ways to help India INK deaf and heering impaired people. 2 1 3 4 5 6 8 7 9 10







You Will Need:

Two empty tin cans with no tops A hammer and a nail A ball of strong string Two buttons A friend to help you





Hammer the nail through the center of the bottom of each tin can. Pull the nail out.

Take the end of the string and put it through the hole in one of the cans. Pull the string through and tie one of the buttons on the end of the string. Pull the string so that the button goes down against the inside of the can.

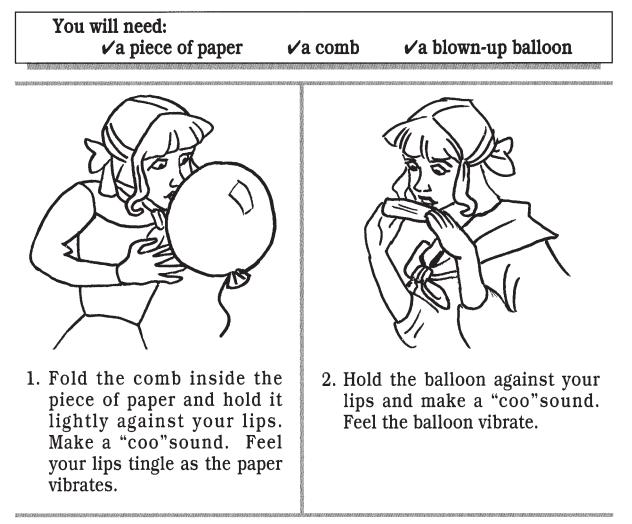
Unwind as much string as you want to reach as far as you like. Do not let it touch anything. Cut the string from the ball and put the end through the hole in the second can. Tie on the button in the same way. Pull back and let the button go against the inside of the can.

Make the string tight between you and the person holding the other can. Do not let it touch anything.

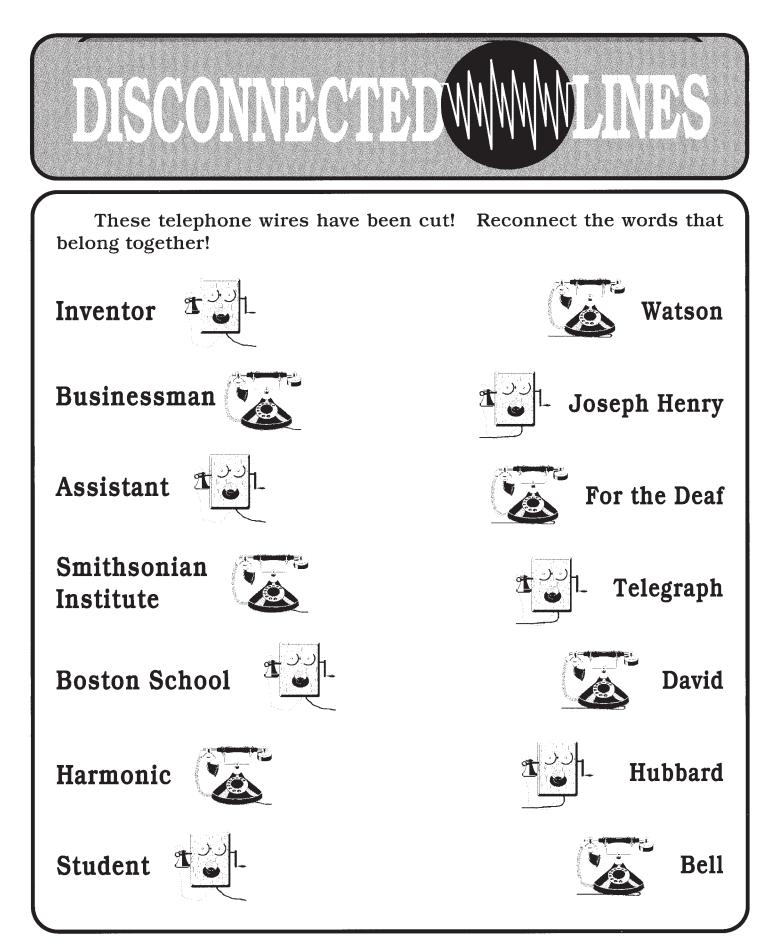
Talk into the can. The button passes on the vibrations of your voice to the tin can. The tin can passes them on to the string, and on to the button, to the can, to the ear of the other person. Have the person talk to you. Hold your can over your ear to listen and near your mouth to speak.



You may not think of sound as something you can see or feel. However, Alexander Graham Bell taught his deaf students how to speak by helping them understand that sound is made up of vibrations. Try this experiment to learn more about vibrations for yourself.



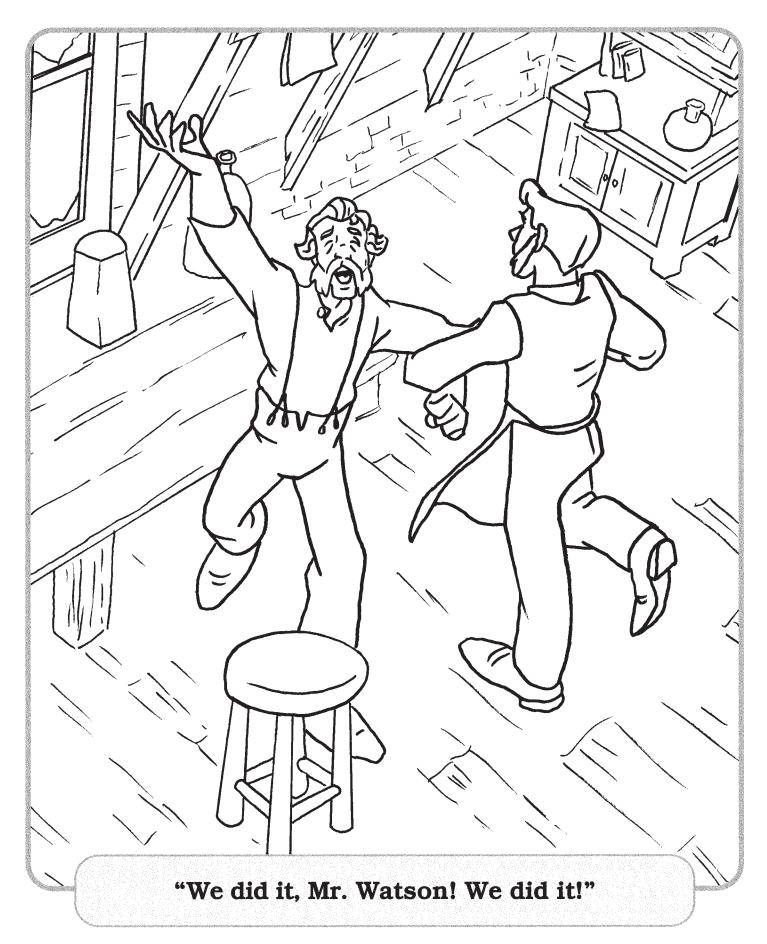
3. Have someone else touch the balloon while you speak. Then repeat this exercise with the other person holding the balloon next to his/her mouth as he/she speaks. Can you "feel" the person speak?





Lerrei	SHUFFLE?
See how many words YOU can m	ake out of the letters in the name:
	GRAHAN Nore times that it appears in the name. M, two R's, three E's, four A's, etc.)
3 Letter Words - 1 point each words x 1 = points	4 Letter Words - 2 points each words x 2 = points
5 Letter Words - 3 points each	6 Letter Words - 4 points each
words x 3 = points	words x 4 = points
L TOTAT DO	DINTS :
5-15 = Junior • 16-30 = Intermediate •	• 31-45 = Advanced • 46-60 points = Ace Champ • 101 and up = Out of Sight!

PUZZ ZLING POETRI
Each rhyme below describes something or someone from the story of Alexander Graham Bell. Read each rhyme aloud. Then write your answer on the blank.
I am the homeland of "Aleck Bell",
Along with his brothers, Edward and Mel.
Who am I?
I am an instrument Mr. Bell played, He would study the vibrations my strings made. What am I?
I helped Mr. Bell all day long,
Over the wires I would sing a song.
Who am I?
I am Mr. Bell's invention that transmits speech, All over the world my words will reach. What am I?



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TRUE OR

	Read each statement below. If it is true, circle the "T." If it is false, circle	tha "E	,,,
	Read each statement below. If it is true, circle the 1. If it is laise, circle	the r	•
1.	Alexander Graham Bell taught deaf students to speak.	Τ	F
2.	Mr. Bell worked on many projects.	Τ	F
3.	Mr. Bell worked alone on his inventions.	Τ	F
4.	The multiple telegraph was Mrs. Fuller's invention.	Т	F
5.	The multiple telegraph could send four messages at the same time.	Т	F
6.	Mr. Bell liked to sing "Buffalo Gal."	Т	F
7.	Mr. Bell believed the human voice could be sent over a wire.	Т	F
8.	Mr. Hubbard paid for the cost of the inventions.	Т	F
9.	Mr. Bell stopped teaching in order to work on his invention.	Τ	F
10.	Mr. Bell had to study more about the electrical theory.	Τ	F
11.	Mr. Bell was very interested in teaching deaf students to read lips.	Т	F
12.	Mr. Bell demonstrated sound and vibration by leaping from a chair.	Τ	F

FALSE

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- 1. Why did Bell demonstrate vibrations when he began teaching his students to speak?
- 2. What invention had Mr. Hubbard originally hired Bell to create?
- 3. Who encouraged Bell to keep learning and keep working on the telephone?
- 4. How did Bell's deaf students communicate with their teacher?
- 5. What was the name of Bell's friend who aided with his experiments?
- 6. What topic did Bell have to study in order to finally complete the telephone?
- 7. Why was Bell reluctant to reduce his teaching schedule?
- 8. How did Bell's love for teaching deaf children affect his inventing?
- 9. Why do you think people say "Creativity is 1% inspiration and 99% perspiration?"
- 10. Why did Bell want his students to learn to speak properly?
- 11. Why was the telegraph not the most efficient way for humans to communicate?
- 12. How did Bell communicate with his deaf students?
- 13. What message helped both Bell and his students succeed?
- 14. What physical ailment often slowed down Bell's experiments?
- 15. What were the first words transmitted over Bell's telephone?



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NOTE TO THE TEACHER: These are activities for a group to discuss and think about.

1. Alexander Graham Bell studied electrical theory and acoustics because he wanted to help deaf people. How have other people used their minds to help others in their community?

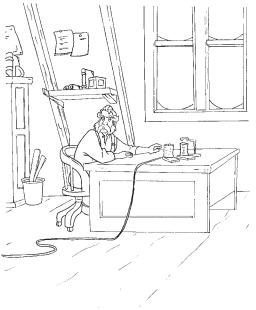
2. Learn sign language. You can use sign language to communicate with deaf or hearing impaired people. You can also use sign language to communicate ideas and feelings when you must be very quiet or when it is too noisy to hear the human voice.

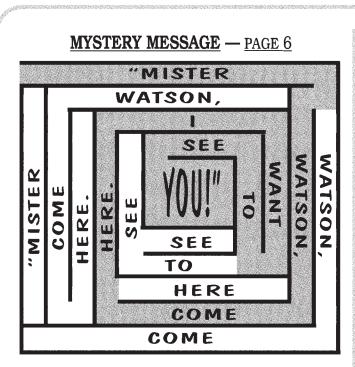
3. Conduct your own experiments with sound waves, water waves, and electrical waves. Your local library has many books available that can help you discover

more about these waves of energy!

4. Tour the facilities of your local phone company. Ask them how telephone service has improved today since Mr. Bell's day.

5. One of Mr. Bell's most prominent character traits was persistence. Why is persistence a valuable quality? How does persistence help people overcome problems?





ANSWER

KE

"MISTER WATSON, COME HERE. I WANT TO SEE YOU!"

WORD SEARCH — PAGE 7



CHARACTER CONNECTION — PAGE 8 16 Ρ 3 \boldsymbol{C} 5 E 15 0 18 R 13 M S Ρ 19 16 9 Ι 1 A 19 S 19 S 20 T 19 S 5 E 9 Ι N0 14 15 3 \boldsymbol{C} 14 N 5 \boldsymbol{E} **CIRCLE THE PICTURES** — PAGE 10 YES NO YES YES YES NO YES NO NO WHO'S WHO? - PAGE 11 1. C - Hubbard 2. E - Joseph Henry B - Mrs. Fuller 3. A - Watson 4. 5. D - David **SOUND OFF** — PAGE 12 **NAME THAT SONG** — PAGE 14 Lamp Flower Bird Cup Frog **BUFFALO GAL**

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HOME SWEET HOME — PAGE 15

Scotland Canada United States Boston

SAY IT WITH SIGNS — PAGE 17

Bell wanted to help deaf people.

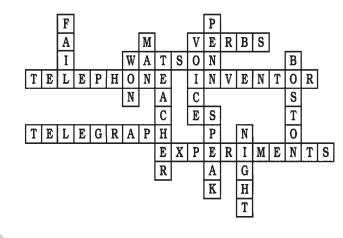
MAKE A SOUND - PAGE 18

BALL - Bouncing PENCIL - Writing DOOR - Slamming HORN - Blowing FINGERS - Snapping BELL - Ringing DRUM - Beating with sticks PIANO - Pressing the keys HANDS - Clapping TOP - Spinning MUSIC BOX - Winding

SUPER SOUNDS — PAGE 19

NO	YES	YES
NO	YES	NO
YES	YES	NO

BELL'S CROSSWORD — PAGE 21



PUZZLING PREFIXES — PAGE 25

- 1. Telemeter (E/5)
- 2. Telephone (C/2)
- 3. Telescope (B/4)
- 4. Television (A/3) 5. Telegraph (D/1)

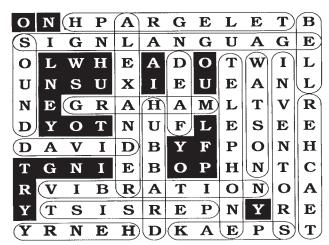
HELPING HISTORY — PAGE 26

MIME - Idea WATSON - Assistance HUBBARD - Money HENRY - Encouragement MRS. FULLER - Kindness

WHAT'S NEXT? — PAGE 27

4, 2, 5, 3, 6, 7, 1, 8. S C O T L A N D

HIDDEN MESSAGE — PAGE 29



YOU ONLY FAIL WHEN YOU STOP TRYING!

POET'S PAGE - PAGE 30
Day
Come
Call
Train

Play

Alone

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FIND THE SPELLING MISTAKES - PAGE 31

furst - FIRST wirez - WIRES daf - DEAF peeple - PEOPLE brot - BROUGHT too - TO lurn - LEARN sine - SIGN studie - STUDY heering - HEARING

DISCONNECTED LINES — PAGE 35

Inventor	BELL
Business	HUBBARD
Assistant	WATSON
Smithsonian	JOSEPH HENRY
Institute	
Boston School	FOR THE DEAF
Harmonic	TELEGRAPH
Student	DAVID

PUZZLING POETRY — PAGE 38

SCOTLAND PIANO WATSON TELEPHONE

TRUE OR FALSE - PAGE 40

1.	Т	5.	Т	9. F
2.	Т	6.	F	10. T
З.	F	7.	Т	11. T
4.	F	8.	Т	12. T

<u>QUESTIONS</u> — <u>PAGE 41</u>

- 1. Bell demonstrated vibrations because sound is created by vibrations and he wanted his students to understand that they could make these same vibrations even if they could not hear.
- 2. Mr. Hubbard originally hired Bell to invent the harmonic telegraph.
- 3. Joseph Henry, the administrator of the Smithsonian Institute, encouraged Bell.
- 4. Bell's students communicated through sign language and by reading lips.
- 5. Watson was Bell's assistant.
- 6. Bell had to study electrical theory.
- 7. Bell loved teaching and did not want to give up the profession he loved.
- 8. Bell originally began researching in order to help his deaf students.
- 9. Bell and other inventors must always put in much study and experimentation to bring their ideas (inspiration) to completion.
- 10. He wanted them to be able to communicate with the hearing world in every way.
- 11. It did not communicate ideas or the expression of the human voice.
- 12. He communicated through sign language and speech (reading lips).
- 13. You can only fail if you quit trying.
- 14. Bell had severe headaches.
- 15. The first words transmitted were, "Mr. Watson, come here. I want to see you!"

