Section 2018 Sect



Resource & Activity Book

The Wright Brothers

2

Fun and Engaging • Curriculum Extension Reinforces Learning • Skill Level Activities

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.

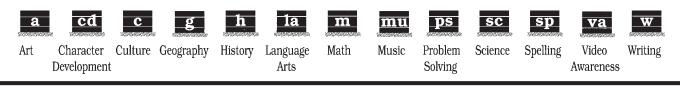


Level Two Intermediate



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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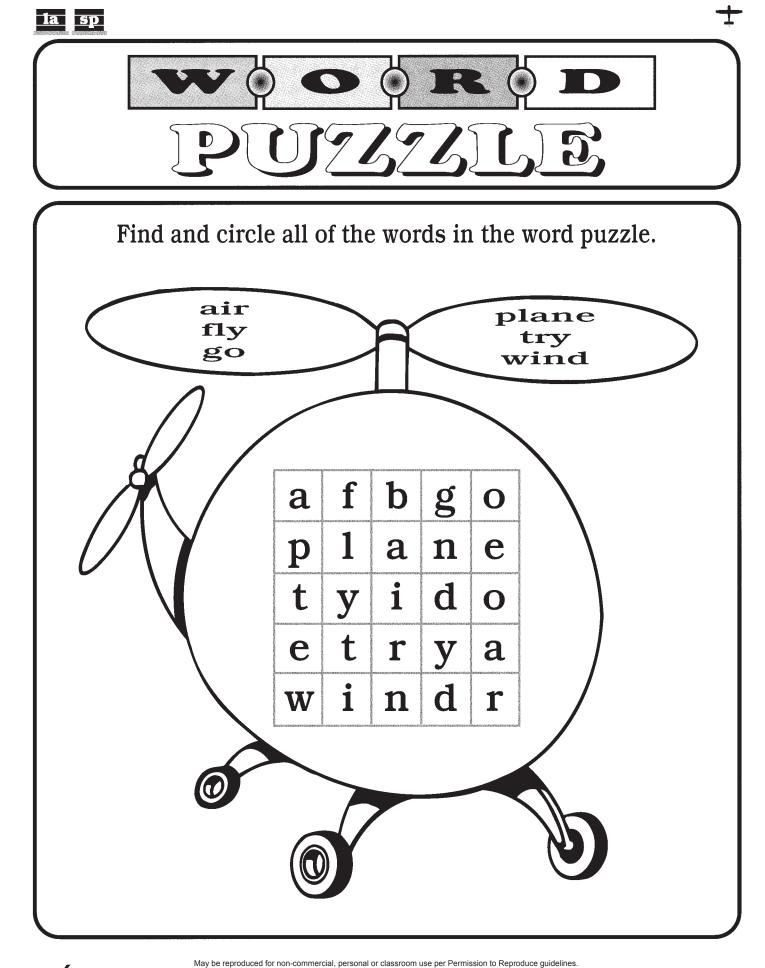
REFERENCES

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

Ash, Russell, The Wright Brothers, Wayland Publishers, East Sussex, 1974.

- Freedman, Russell, The Wright Brothers How They Invented the Airplane, Holiday House, New York, 1991.
- Howard, Fred, Wilbur and Orville A Biography of the Wright Brothers, Alfred A. Knopf, New York, 1987.
- Ludwig, Charles, The Wright Brothers They Gave Us Wings, Mott Media, Milford, Michigan, 1985.
- Marquardt, Max, Wilbur and Orville and the Flying Machine, Raintree Publishers, Milwaukee, 1989.
- Young, Rosamond and Catherine Fitzgerald, *Twelve Seconds to the Moon*, C. J. Krehbiel Company, Cincinnati, Ohio, 1983.





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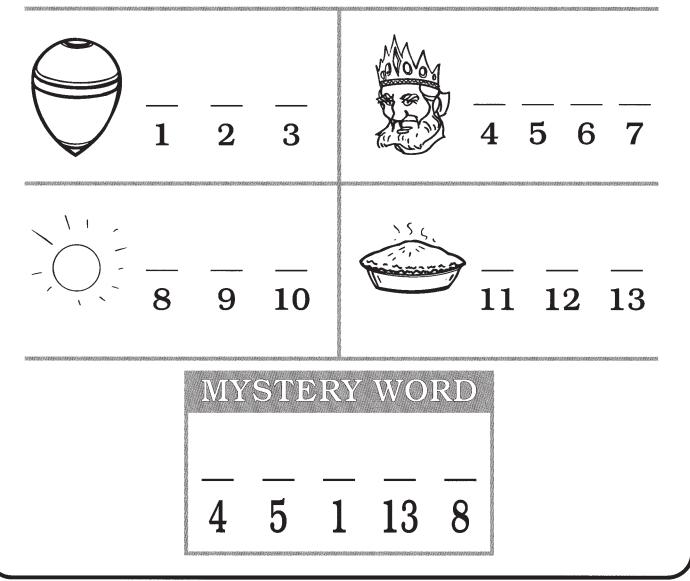
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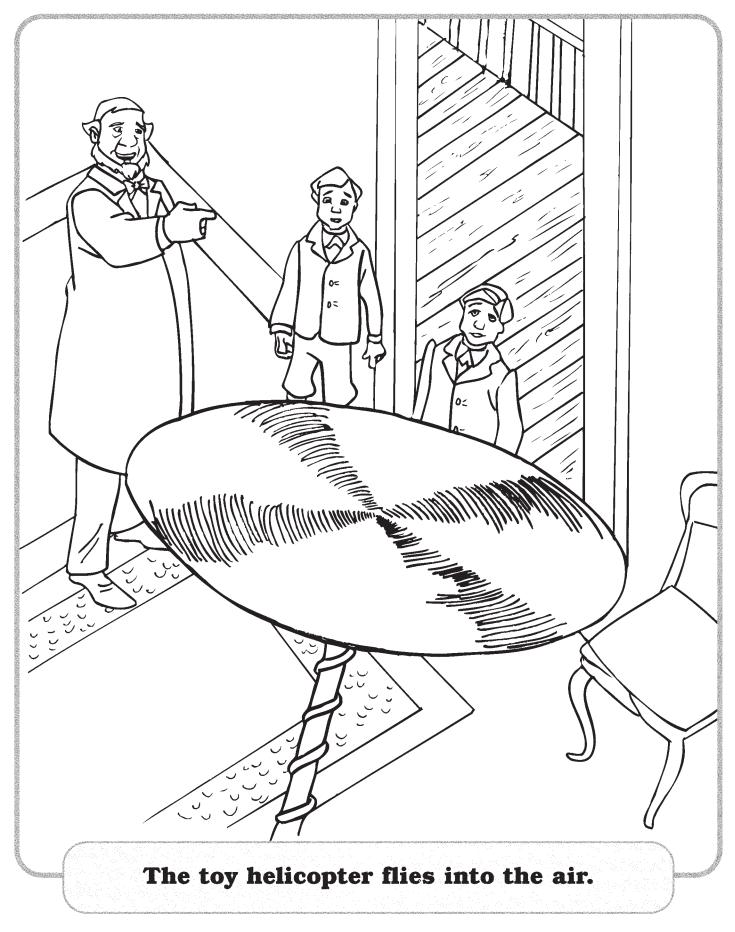
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**************************************	A 20	L 5	W 21	0 30	R 65	s 40	I 13	E 75	N 8	E 80	G 42	A 95	0 10	T 25	S 17
STEP TWO	Copy order						Cros	sed (off, iı	1					
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		"Pt	er" n	near	1S _							•			



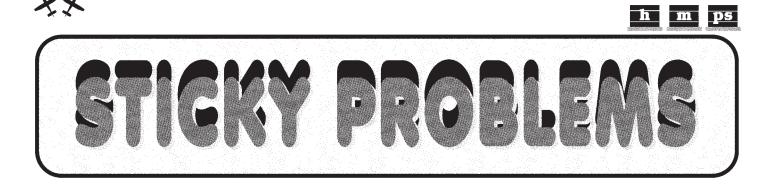
Wilbur and Orville invented things from an early age. Orville could make one item that was much better than those sold in stores. His friends bought them from him.

Work the puzzle and learn what it was. Write the name of the object on the blank. Match the numbers in the puzzle with the numbers in the mystery word. Write the letter on the blank to find what Orville made and sold.



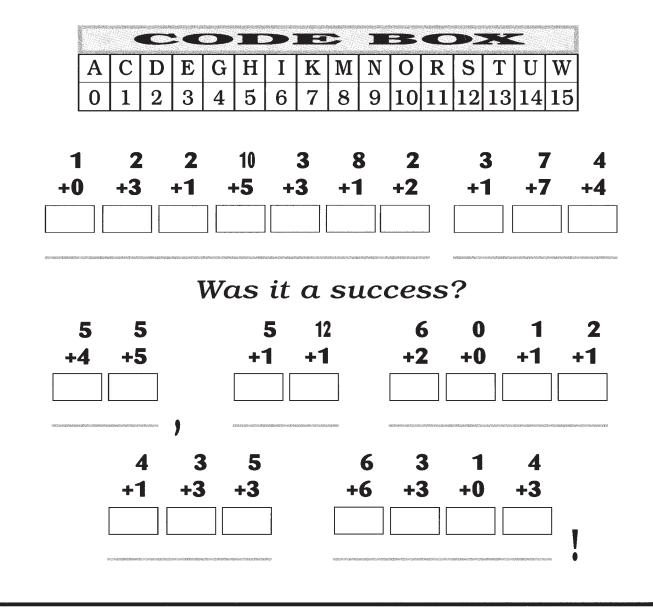


<u>1a</u>			
On		s Lei	ter
way. Orville was a rst entry in the Wi	around eight years right Collection in t	vrote to his father w old. Mr. Wright kej he Library of Congro Can you find ther	ot it. It is the ess.
Dear Father			
I got you	r letter today.	My	said I
was a good b	oy	We k	nave 45 in our
room. The ot	her day I took (a	can and
	9	then	
		ed a little	•
water came	<i>C</i>	out at the top abo	out a foot. The
water in the		was up	to the Cracker
	about	a half a	•
There is a good	d deal of water c	on the	•
The old	is	dead.	
			Your son,
			Orville
nen generale et un veren en den an de ander de ander de anter a de transforment veren ander de ander a de ander Rei ander a de talen en de anter de anter de anter a de a Rei ander a de talen en de anter de anter a d			
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cat factory	island machine	squirting stove	today water

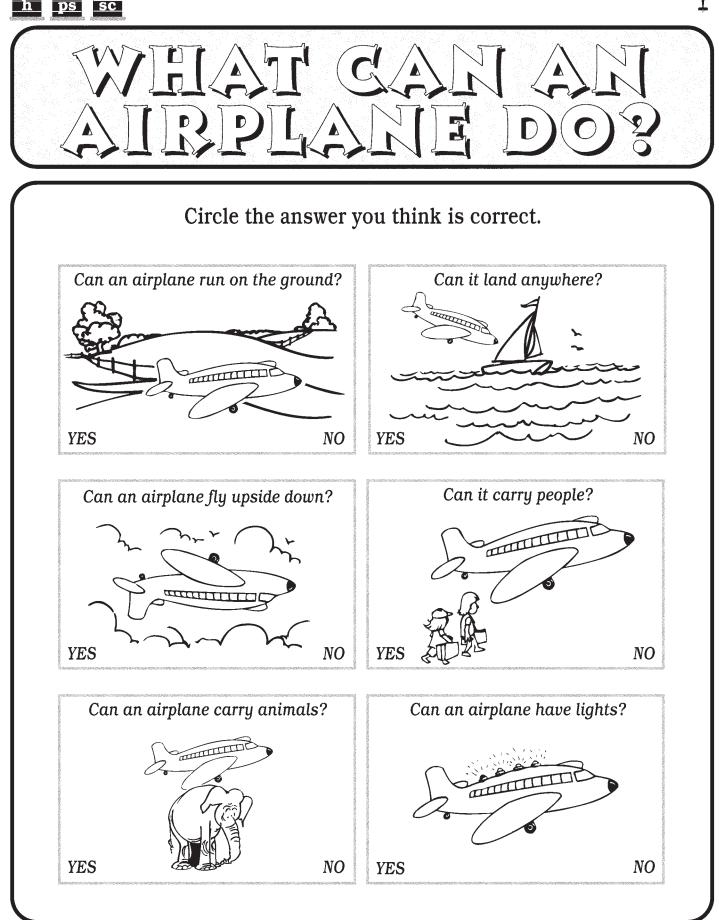


Wilbur and Orville began experimenting at an early age. When Orville was around ten years old, he mixed tar with sugar and flavoring. He cooked it in a black iron kettle over a fire in the backyard. He planned to make something, and sell it in little wrapped cakes to his friends. What was it? Work the puzzle and learn about it.

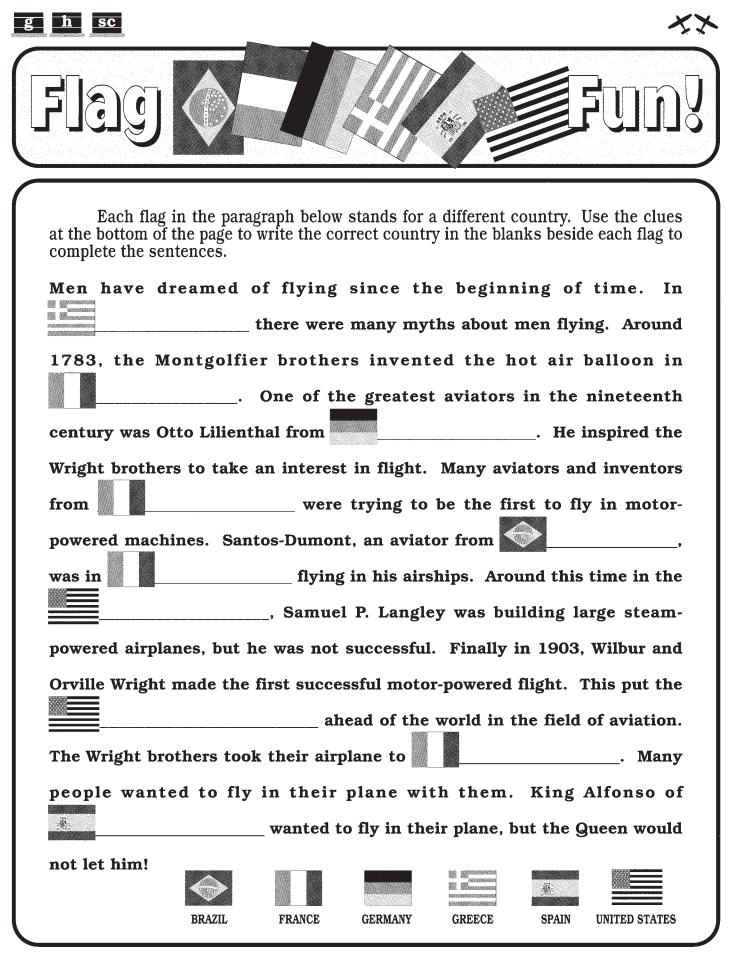
Find the correct letters by solving the problems. Match the sums with the letter in the Code Box and write it on the blank under the sum.

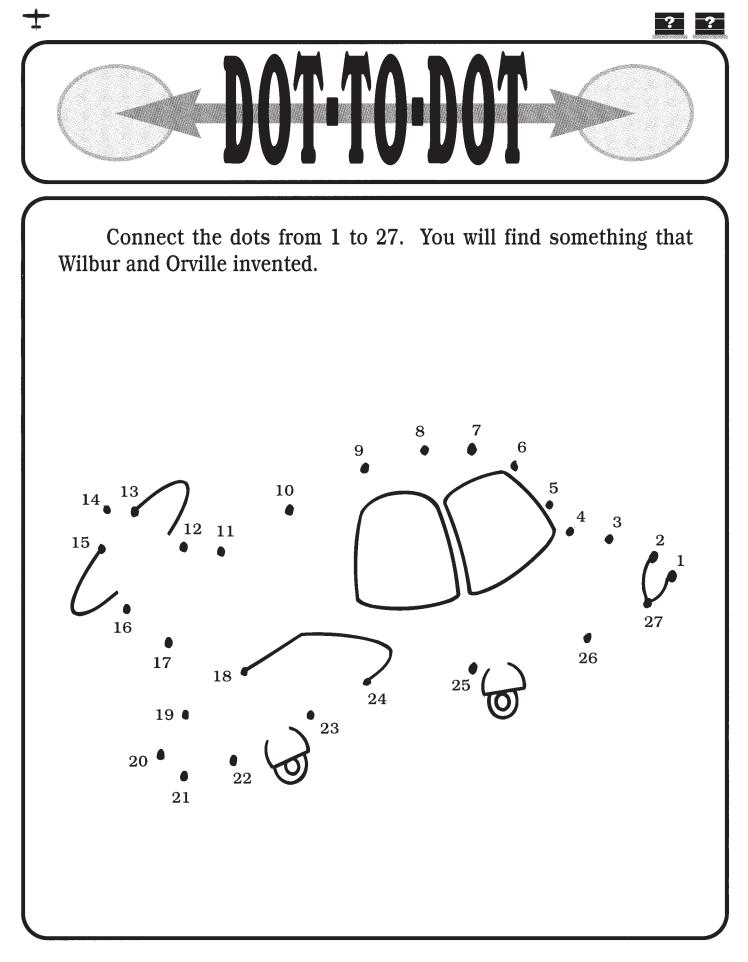


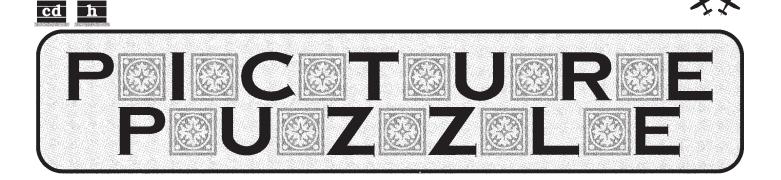






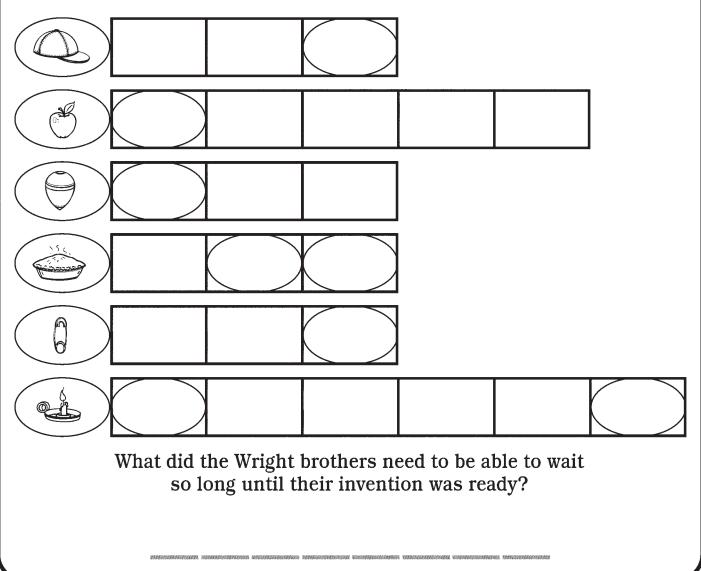




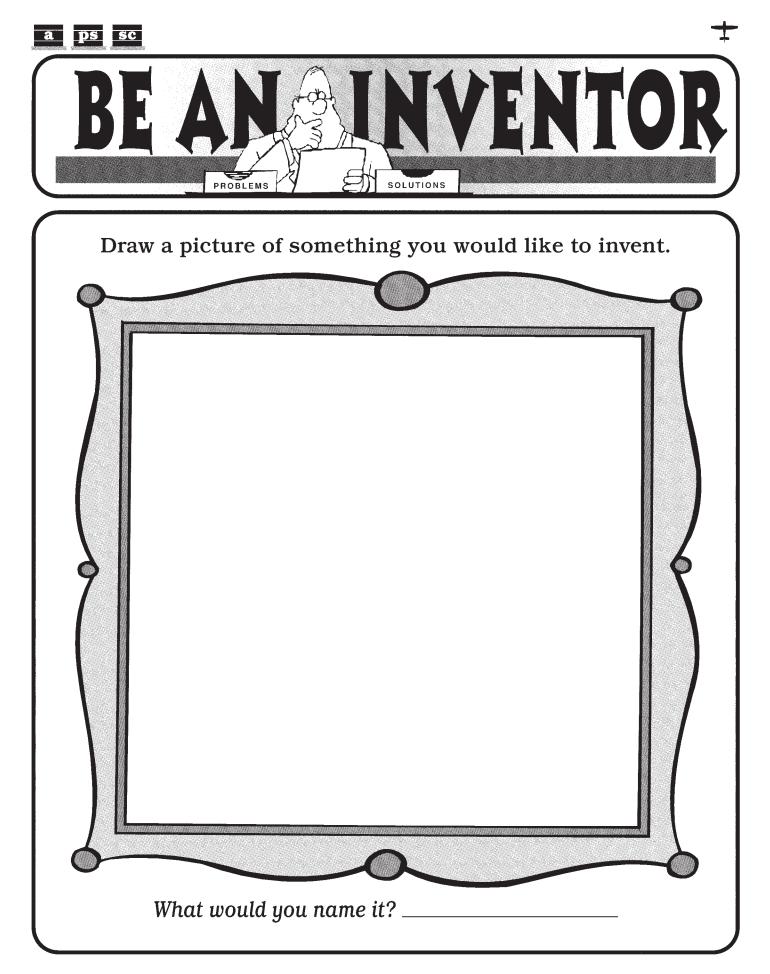


The two brothers wanted to be sure their machine would fly before they put it on display. When others urged them to show their invention, they always said, "It isn't ready." There was something they needed to do this. What was it?

Write the names of the objects in the squares as indicated. Then beginning at the top, copy the circled letters in order on the blanks below.









MODEL HELICOPTER

When Wilbur and Orville's father returned from a trip, he brought them a toy helicopter. They had never seen one before and it started their interest in the science of flight.

Helicopters have a large horizontal rotor instead of the usual airplane wing and propeller. The rotor blade pushes down against the air, causing the helicopter to rise. A small rotor in the rear helps to steer the helicopter.

Below is a list of things to help you make your own helicopter!

You Will Need: ___Two spools __A model propeller blade __A short dowel __String __Glue __A small wooden block __Two finishing nai Hammer

STEP ONE:

Glue one spool on the wooden block. Put the dowel down inside the spool.

STEP TWO:

Nail the two finishing nails on top of the other spool where they will fit into the holes in the propeller. (This will keep the propeller from slipping when the string is pulled quickly.) Wrap the string around the spool and place the spool onto the end of the dowel sticking up

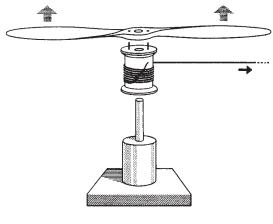
out of the other spool.

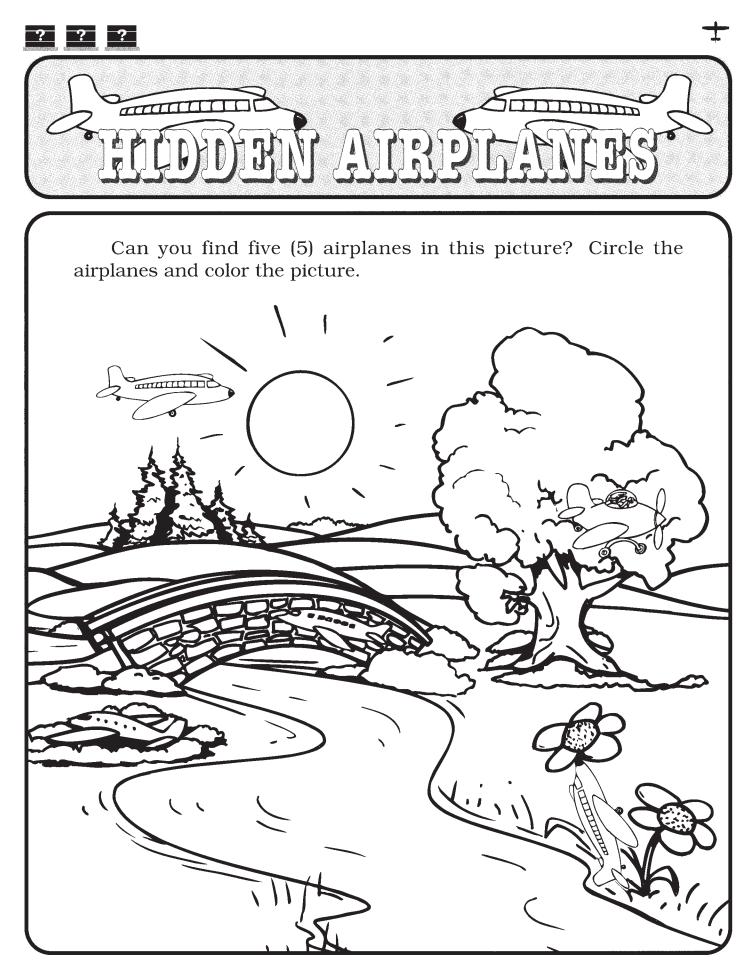
STEP THREE:

Place the propeller on the spool, fitting the nails into the small holes on the propeller.

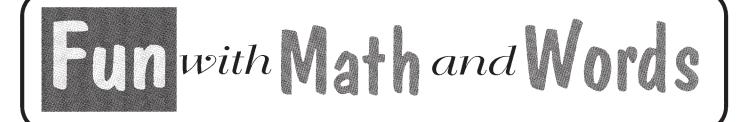
STEP FOUR:

Pull the string quickly. The blade should spin rapidly and rise several feet into the air. Now you have your own helicopter!

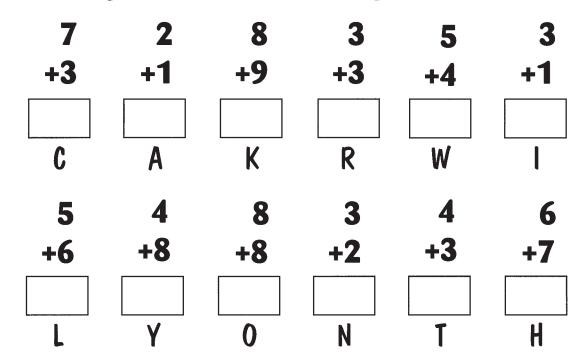




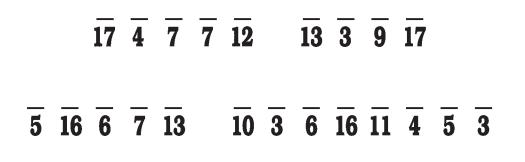
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Wilbur and Orville wanted to test their glider in a windy place. Have some fun with math and words to find where they made their first flight. First, solve the addition problems.

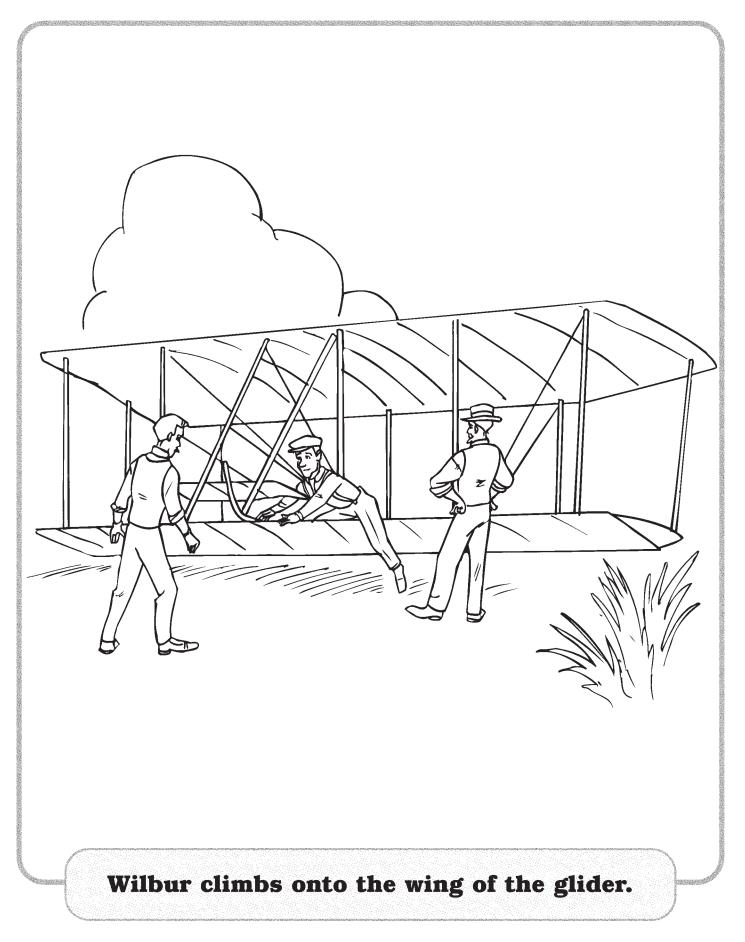


The sums of the addition are code numbers for the letters below them. In the spaces below, write the correct letter above each code number.



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۲X ۲	h la
	NG POETRY
Read the poems and see if you can disthey are describing. Write your answer in the	
Peo	
This has no motor when it flies in the sky; You just hear a "swish" when it passes by. We use it to practice soaring in the air; And if you fly one, you'd better take care!	
	ton, Ohio you will find our store; this place for a state with a shore. re we flew in a town with a name; u've heard of this town of great fame!



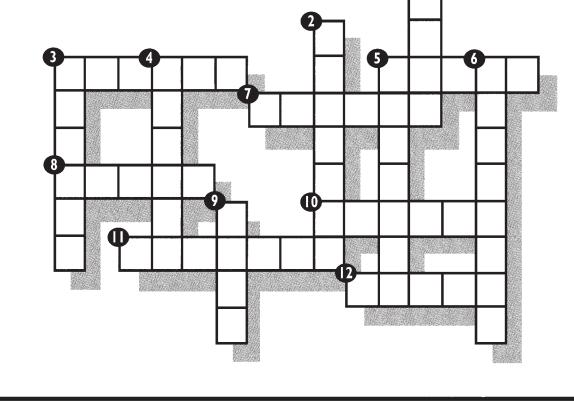
Wright's Crossword

Across

- **3.** Orville and Wilbur's last name.
- **5.** Many people tried to ______ the Wright's ideas.
- **7.** Country chosen to fly first exhibition.
- **8.** The brothers studied these in flight.
- **10.** A wind ______ was invented to study air passage.
- **11.** The younger Wright brother.
- **12.** Orville was _____ years old when he received a toy helicopter.

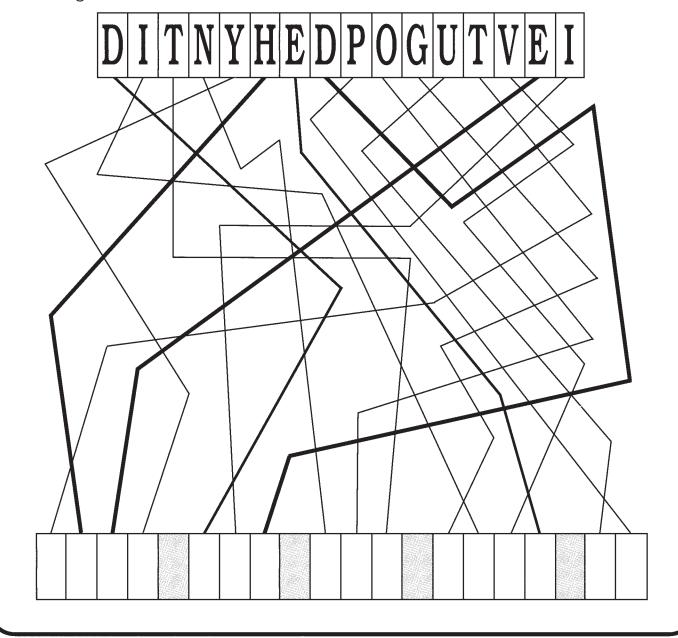
Down

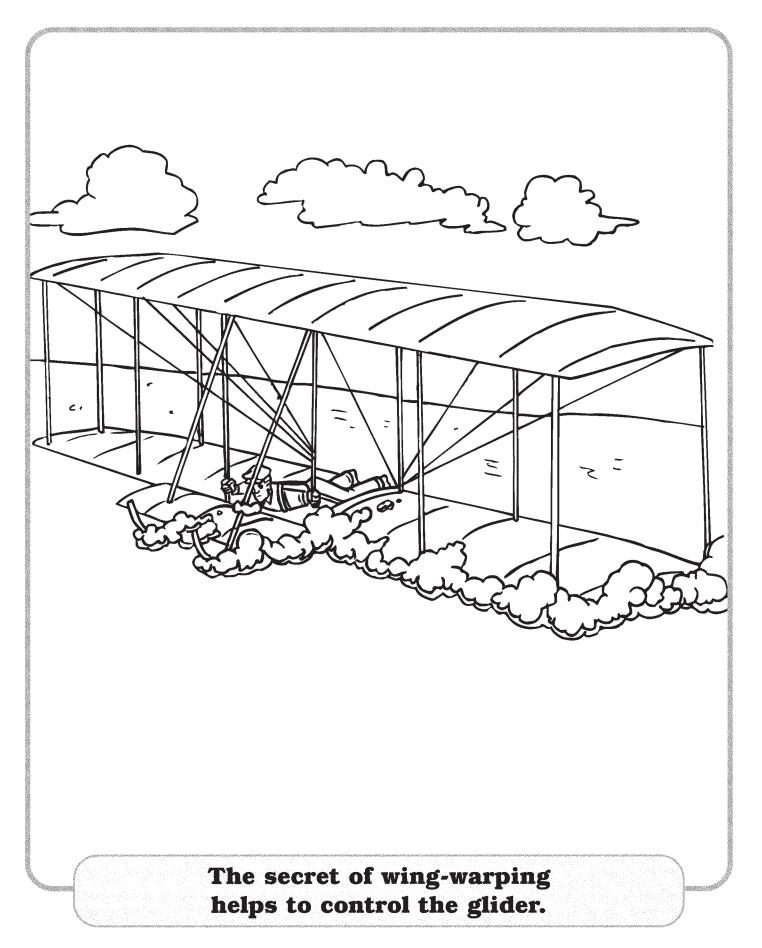
- 1. Man who helped in Kitty Hawk.
- **2.** Engineer who helped the Wrights.
- **3.** The older Wright brother.
- **4.** Airplane without a motor.
- **5.** The original plane was sent to the _____ Museum in London.
- 6. Name given to motor-powered gliders.
- **9.** The secret of flying was ______ warping.



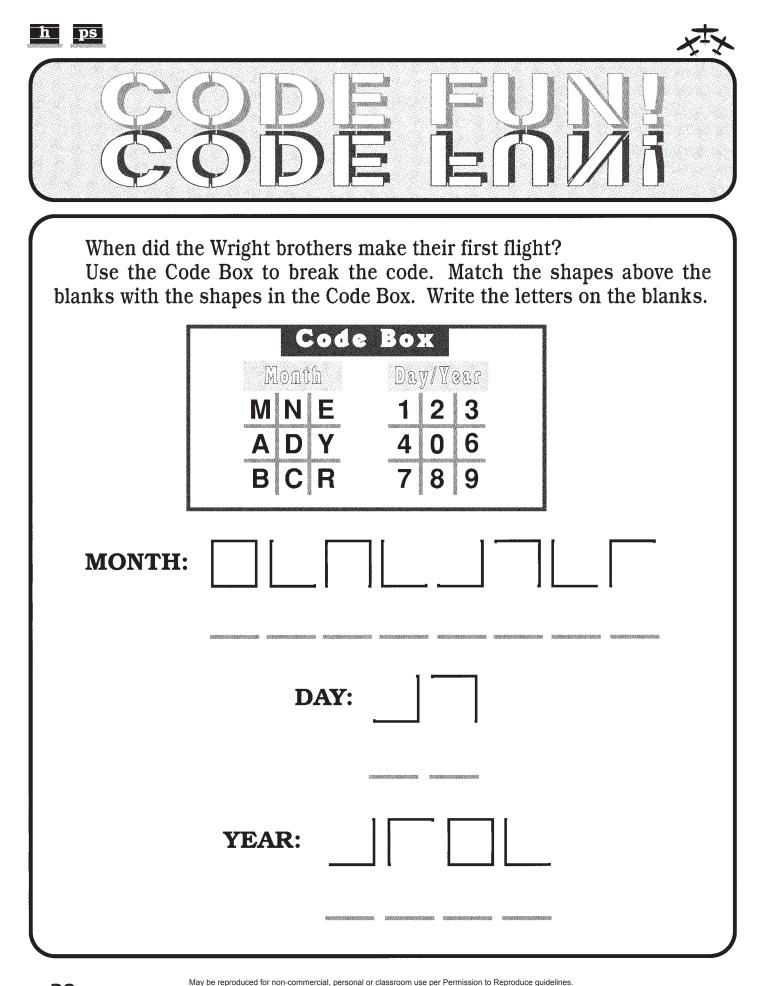


The Wright brothers tried many times to make a machine that would fly. They finally succeeded. What was the secret of their success? Follow the lines from the letters and write the letter in the attached box. Read the message.





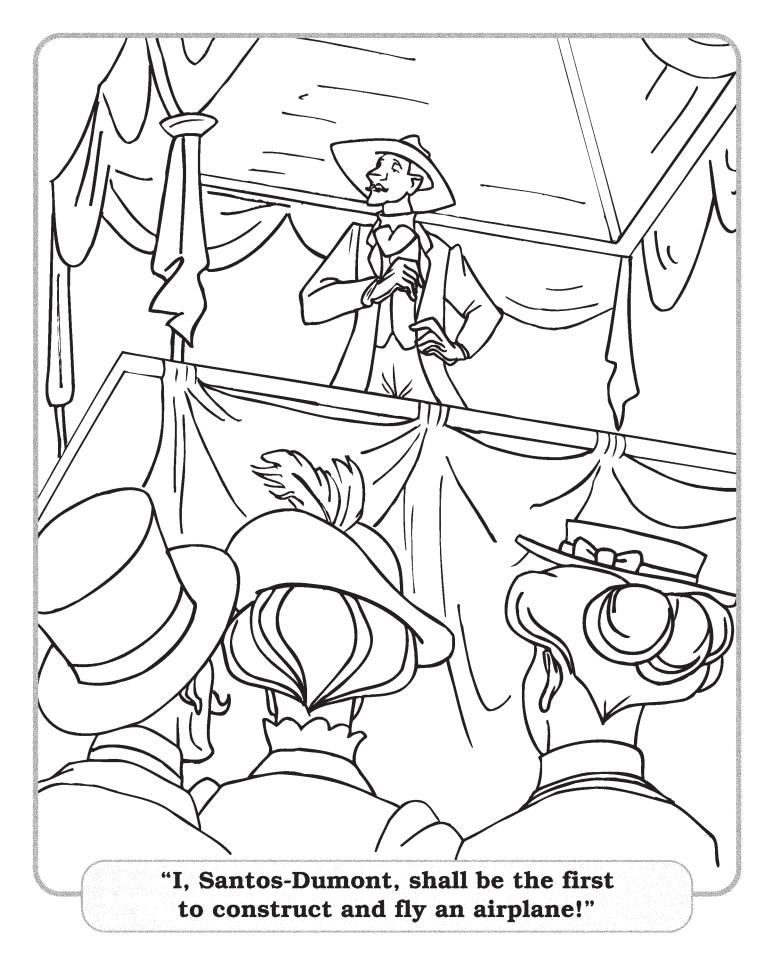
τ×	la m sp
Constant Letter	SHUFFLE !
See how many words YOU can ma	ake out of the letters in the name:
NOTE: You cannot use any letter mo	BROTHERS re times than it appears in the name. han one W, two T's, etc.)
3 Letter Words - 1 point each	4 Letter Words - 2 points each
words x 1 = points	words x 2 = points
5 Letter Words - 3 points each	6 Letter Words - 4 points each
words x 3 = points	words x 4 = points
TOTAL PO	
5-15 = Junior • 16-30 = Intermediate • 61-85 = Champ • 86-100 = Super C	



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	dirig			glide hanga			motor		_	oilot essure		wing-w Wri	_	5
A	K	Ι	Τ	Τ	Y	Η	Α	W	K	B	W	С	F	D
Η	С	Ν	U	Α	L	D	Ι	R	Ι	G	Ι	Β	L	E
0	R	V	Ι	L	L	E	R	Ι	E	\mathbf{F}	L	G	Ι	Η
Ι	Α	E	J	Ρ	K	L	Ρ	G	Ρ	Μ	B	\mathbf{F}	G	Ν
С	F	Ν	0	Ι	Ρ	R	L	Η	R	S	U	L	Η	Τ
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Ν	\mathbf{M}	Ι	Ο	Ο	X	Ν	Ν	Ο	S	E	D	Ι	V	E
Τ	Y	0	Τ	Τ	G	Ζ	E	Α	S	Β	С	Ν	E	D
R	D	Ν	0	Α	С	Η	Α	Ν	U	Τ	E	G	F	D
0	G	Η	R	G	L	Ι	D	E	R	Ι	J	\mathbf{K}	L	U
L	W	Ι	Ν	D	Τ	U	Ν	Ν	E	L	Μ	Ν	0	R
W	Ι	Ν	G	W	Α	R	Ρ	Ι	Ν	G	R	S	Τ	Α







Below is an unfinished poem about the Wright brothers. 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.

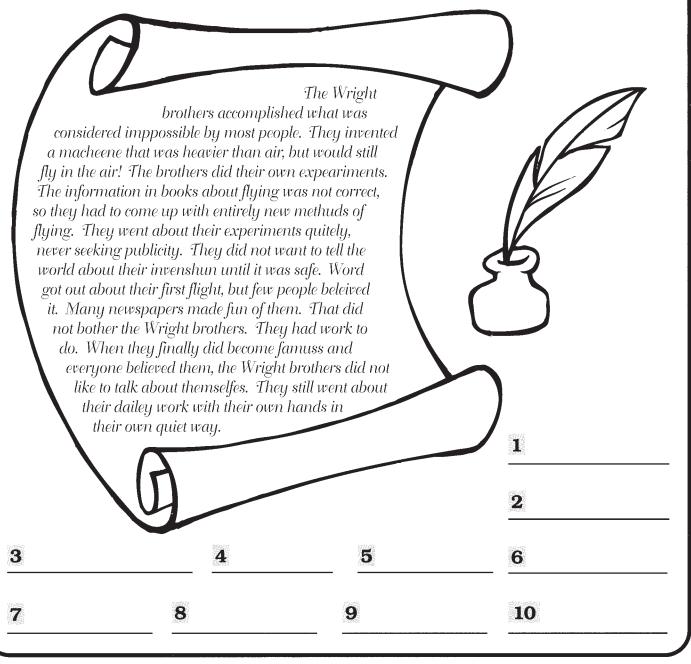
	"Orville and Wilbur"
	Wright brothers worked daily in their shop, ere so excited they did not want to
And or	Day after day they used their brains ne day they decided to build an
	ey worked really hard and soon they made lane with an engine and a
	Orville and Wilbur did not like to walk hey flew a plane at
	High in the air, they were such a sight two brothers, pioneers of
	Now, thanks to the Wrights, we can go d the world in a few hours or

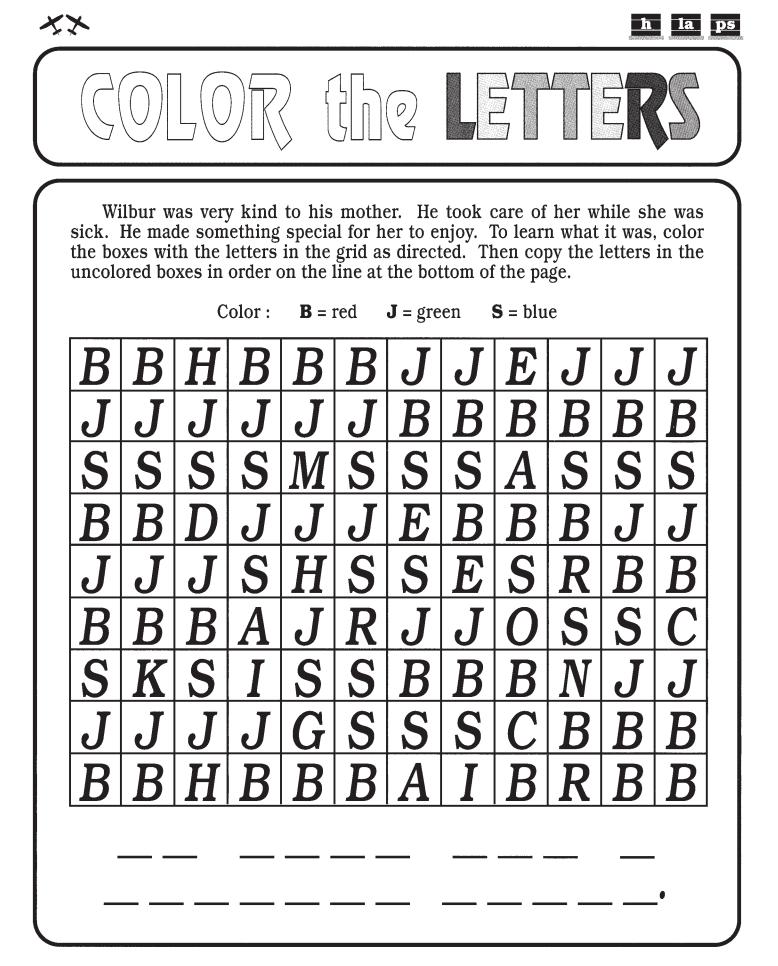
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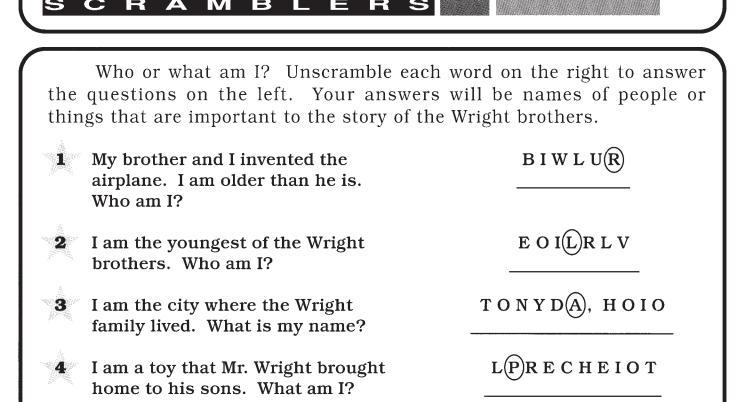
Can you find the ten spelling mistakes in the story below about the Wright brothers? Circle them and write each word correctly in the blank spaces at the bottom of the page.





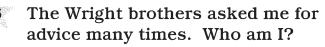


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I am the place where the first airplane was flown. What is my name?

STARS & STRIPES



I assisted the Wright brothers on their first flight. Who am I?

I am the country that wanted to be first in aviation. Who am I?

> Copy the circled letters:_____ Unscramble the letters to answer the question below.

WHAT WAS THE NAME OF THE NEW MOTOR-POWERED GLIDER?

la

Y(I)KTT WKAH

C H U T E(N)A

NAD TET(A)

R A N(E) C F

SC

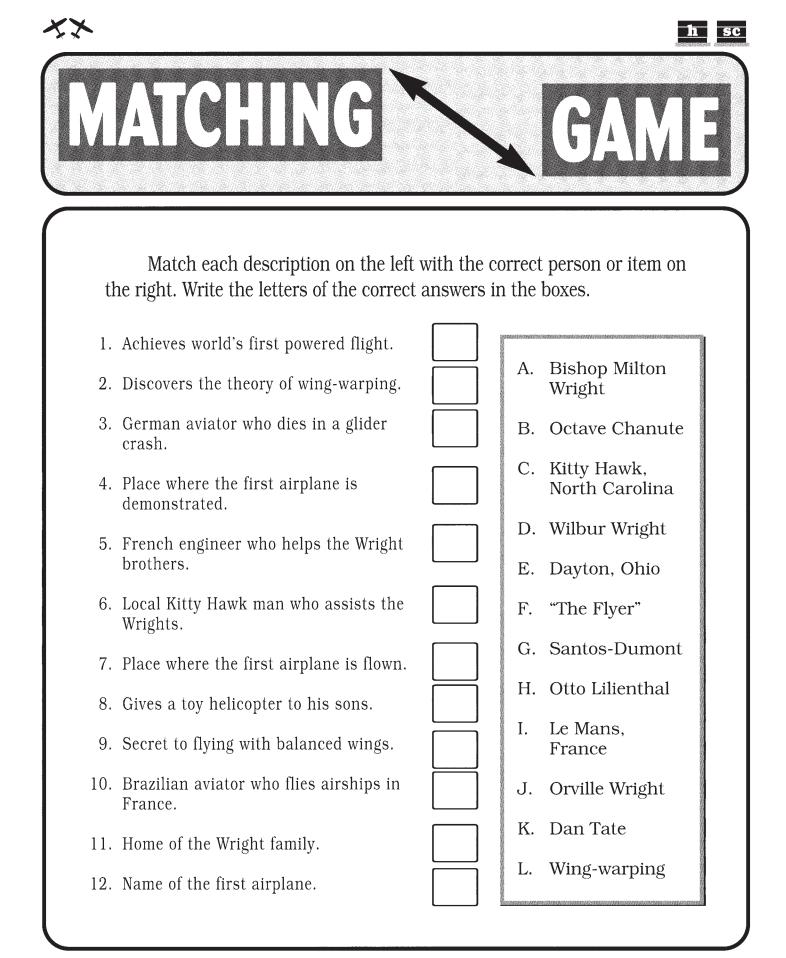
sp

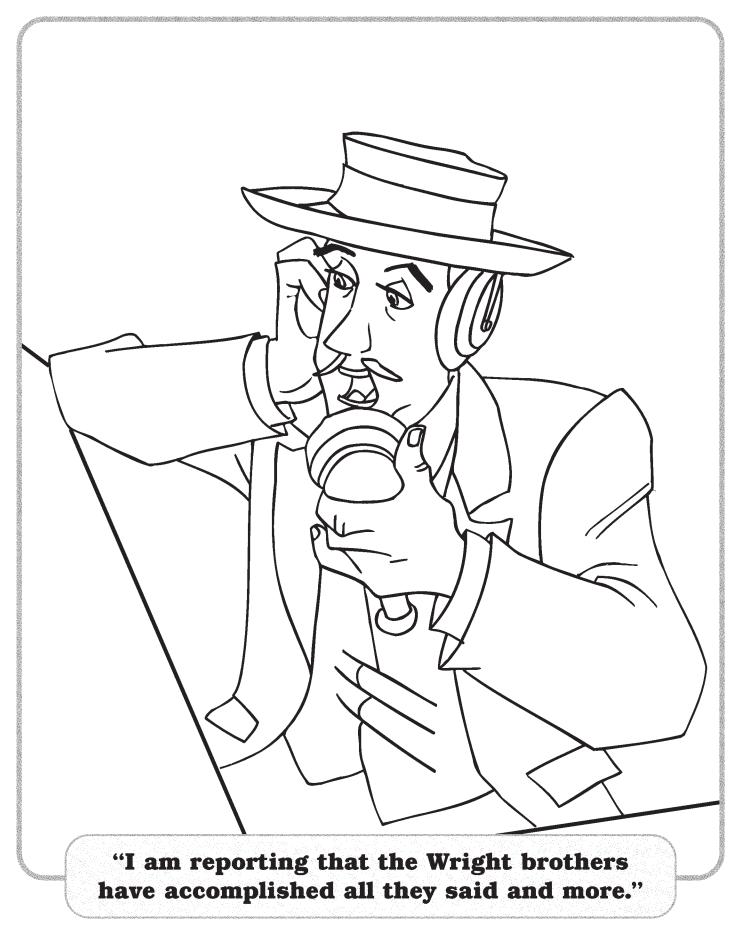


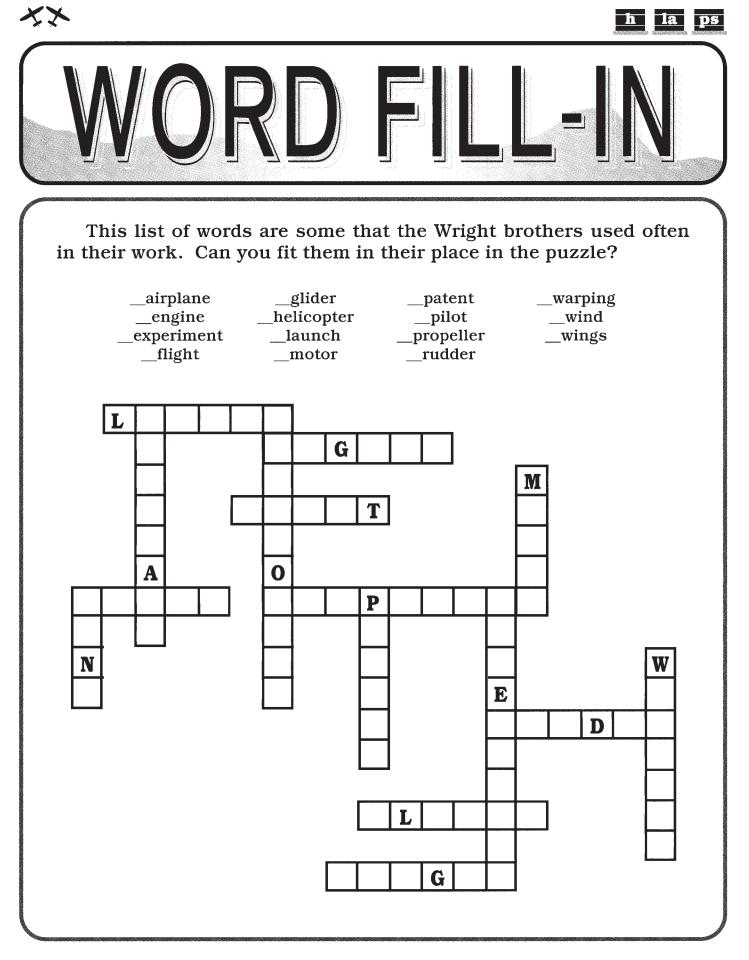
Fill in the blanks to complete the sentences about the Wright brothers. The words are in the Word Box. Some of the words may be used more than once.

WORD BOX								
airplane	fly	manufactured	toy helicopter					
bicycle	France	printing press	windy					
clergyman	glider	sandy	wing-warping					

- 1. Orville and Wilbur Wright first experienced flying machines when their father gave them a _____.
- 2. Their father was a _____
- 3. The Wright brothers started their first business operation with a ______ they had made.
- 4. The 1890's were called the decade of the _____
- 6. They not only rented, repaired, and sold bicycles, they ______ their own brands.
- 7. In 1894, the Wright brothers saw in a magazine a photograph of Otto Lilienthal's ______.
- 8. Wilbur and Orville believed they could make an ______.
- 10. They experimented at Kitty Hawk because it was _______. and ______.
- 11. The method they discovered for wing control was called
- 12. The place they chose to display their invention was





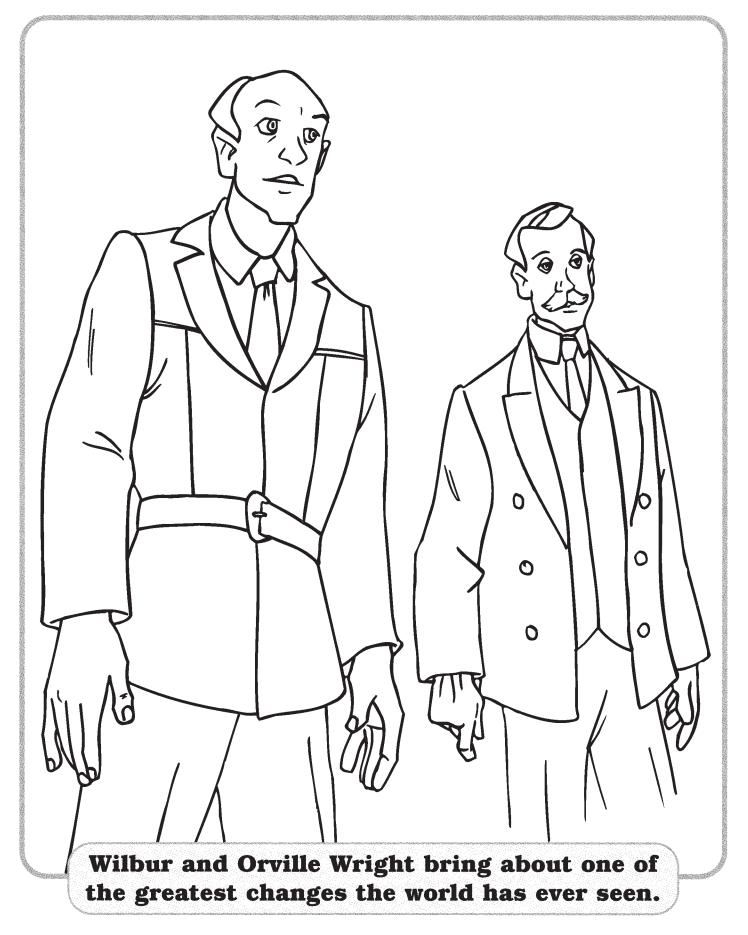




h

	Read each statement below. If it is true, circle the "T." If it is false, circle the "F."						
1.	Wilbur and Orville were brothers.	Т	F				
2.	Wilbur and Orville's father was a minister.	Т	F				
3.	The two brothers started inventing at an early age.	Т	F				
4.	They invented the first automobile.	Т	F				
5.	They watched birds flying to learn how they controlled their wings.	Т	F				
6.	They were the only people working on a flying machine.	Т	F				
7.	They discovered a method called "wing-warping."	Т	F				
8.	Orville and Wilbur went to Kitty Hawk, North Carolina because it had high hills.	Т	F				
9.	They tried many times and failed.	Т	F				
10.	England was the chosen place to display their airplane.	Т	F				
11.	Wilbur and Orville Wright invented the first successful airplane.	Т	F				
12.	The Wright brothers taught many people to fly.	Т	F				

FALSE





- 1. What was the occupation of Orville and Wilbur's father?
- 2. What did the Wright brothers manufacture before they started working on aircraft?
- 3. How did the brothers learn about wing-warping?
- 4. What did they use to demonstrate their idea on wing-warping?
- 5. What did warping the wings do?
- 6. What promise did the brothers make their father?
- 7. Why did the Wright brothers choose Kitty Hawk to test their glider?
- 8. Why was a sandy place important to the test flights?
- 9. Who was Chanute?
- 10. In what position did Wilbur place himself to fly the glider?
- 11. Why did Chanute break his promise to the Wright brothers to wait to tell their discovery until they had proved it?
- 12. Who was Santos-Dumont?
- 13. What did Orville and Wilbur build that helped them to prove Lilienthal's pressure tables were wrong?
- 14. Why was it important to take pictures of their flights?
- 15. Why did Chanute keep urging them to show their invention to the world?
- 16. Why did the Wright brothers wait so long to demonstrate their airplane?
- 17. Where did they choose to make their first flying exhibition? Why?



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

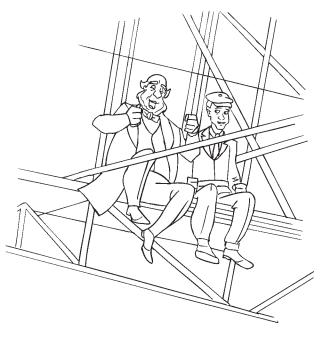
1. The airplane has been considered one of the world's greatest inventions. In what ways would life be different today if airplanes had never been invented? How would it effect you personally? Do you think there are new possibilities in the field of flight?

2. Wilbur and Orville Wright were men who cared more about their dream of flying than publicity. They worked long, hard hours at great personal sacrifice. What character qualities do you think they had that enabled them to accomplish things believed to be impossible?

3. Orville Wright sent their original plane flown at Kitty Hawk, North Carolina, to the Science Museum in London in 1928. The Science Museum sent the plane back to the United States in 1948. The original plane is now in the National Air and Space Museum in

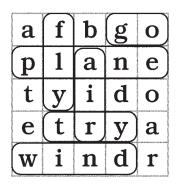
Washington, D.C. Discuss some of the reasons that you think Orville Wright sent the plane to the museum in London instead of to one in the United States.

4. Plan a project or paper about the history of flying and present it to your class. Check your local library for addresses to flight museums. Write to them and ask for information on the history of flying and the Wright brothers.



ANSWER KEY

WORD PUZZLE - PAGE 6



NUMBER JUMBLE — PAGE 7

"Helix" means STEM-LIKE "Pter" means WINGS

FIND THE WORD - PAGE 8

top	king
sun	pie

kites

ORVILLE'S LETTER — PAGE 10

teacher today machine water stove while squirting river factory foot island cat

STICKY PROBLEMS — PAGE 11

chewing gum No, it made him sick!

WHAT CAN AN AIRPLANE DO?

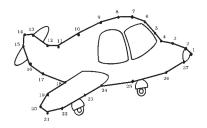
— PAGE 12

Answers may vary.

FLAG FUN - PAGE 14

GREECE, FRANCE, GERMANY, FRANCE, BRAZIL, FRANCE, UNITED STATES, UNITED STATES, FRANCE, SPAIN

DOT-TO-DOT — PAGE 15

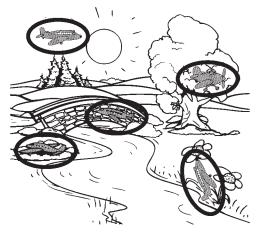


<u>PICTURE PUZZLE</u> — PAGE 16

CAP APPLE TOP PIE PIN CANDLE

PATIENCE

HIDDEN AIRPLANES — PAGE 20



FUN WITH MATH AND WORDS

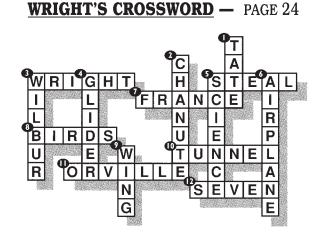
— PAGE 21

10 3 17 6 9 4 11 12 16 5 7 13

KITTY HAWK NORTH CAROLINA

PUZZLING POETRY — PAGE 23

Orville & Wilbur Wright bike glider Kitty Hawk, North Carolina



FOLLOW THE LINES - PAGE 25

THEY DID NOT GIVE UP

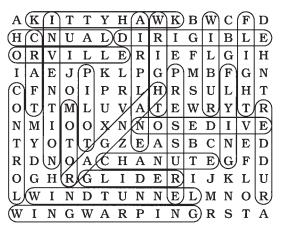
LETTER SHUFFLE — PAGE 27

bit bite bites bore	got heir heirs height	hose hoses host hot	shoes shot shots sight	throbs tight tire tires	wish with wore write
both	her	right	sit	toes	writer
bright	hers	rob	site	trite	writes
broth	hire	rose	sore	weight	wrote
brother	hires	rot	tiger	wet	
brothers	his	set	their	white	
get	hit	shirt	theirs	whiter	
ghost	hoe	shirts	this	wire	
goes	hoes	shoe	throb	wires	

<u>CODE FUN</u> — PAGE 28

December 17 1903

WORD SEARCH - PAGE 29



POET'S PAGE — PAGE 31

stop airplane blade Kitty Hawk flight so

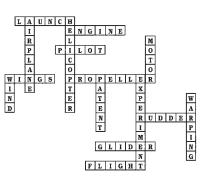
ALL-AMERICAN SPELLING BEE

— PAGE 32

<u>Misspelled - Correct</u> imppossible - impossible macheene - machine expeariments - experiments methuds - methods quitely - quietly invenshun - invention beleived - believed famuss - famous themselfes - themselves dailey - daily

COLOR THE LETTERS — PAGE 33 BBHBBBJJEJJJ JJJJJJJBBBBBB SSSSMSSSASS BBDJJJEBBBJJ JSHSSES RBB .Τ BBBAJRJJOSSC SKSISSBBBN JGSSS J С J В BB HBBBA IRR \mathbf{R} He made her a rocking chair. **STARS & STRIPES SCRAMBLERS** — PAGE 35 Wilbur Orville 1. Dayton, Ohio 2. helicopter 3. 4. Kitty Hawk 5. Chanute 6. Dan Tate France 7. AIRPLANE 8. 9. FILL IN THE BLANKS — PAGE 36 toy helicopter clergyman printing press bicvcle bicycle manufactured glider airplane flv windy and sandy wing-warping France **MATCHING GAME** — PAGE 37 7. C 1. J 4. I 10. G 2. D 5. B 8. A 11. E 6. K 9. L 12. F 3. H

WORD FILL-IN — PAGE 39

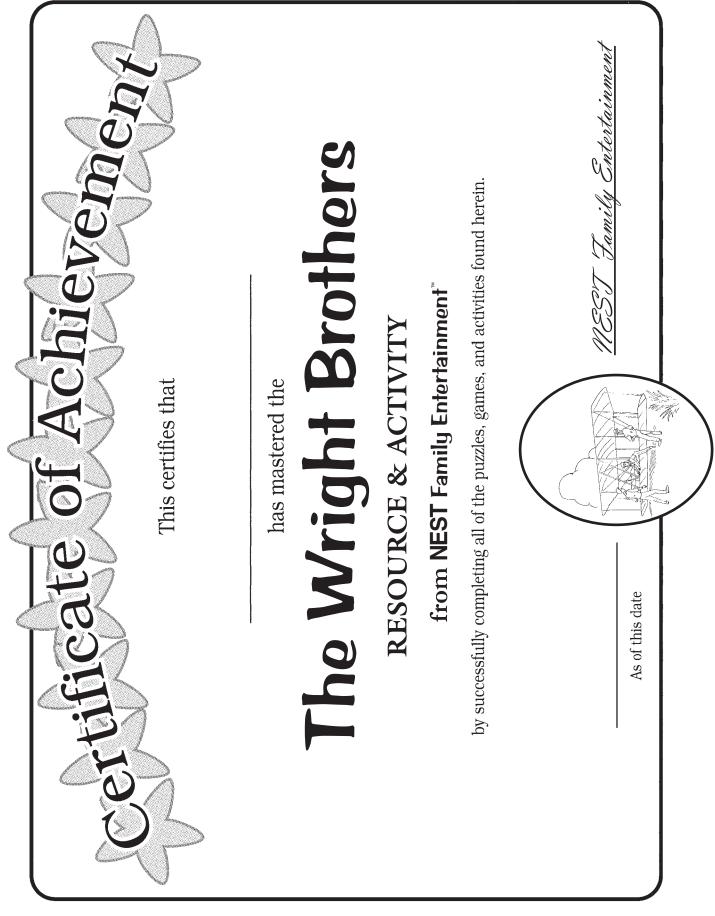


TRUE OR FALSE - PAGE 40

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

<u>QUESTIONS</u> – <u>PAGE 42</u>

- 1. He was a clergyman.
- 2. They made bicycles.
- 3. They studied birds flying.
- 4. They used a thin cardboard box.
- 5. Warping keeps the wings balanced.
- 6. They promised to not fly together until it was safe.
- 7. Kitty Hawk was chosen because of the strong winds and sandy soil.
- 8. Sand is softer for gliders and people to fall to.
- 9. Chanute was another inventor of gliders and was well-known for his knowledge.
- 10. Wilbur lay prone, or flat, on the bottom wing.
- 11. He wanted to be considered the most knowledgeable about flying and inventing aircraft. Others were losing confidence in him, and accused him of hiding some knowledge.
- 12. Santos-Dumont was a Brazilian aviator who made many airship flights in France.
- 13. They built their own wind tunnel.
- 14. Pictures were proof of their achievements and were also used for historical documentation.
- 15. Chanute was afraid they would let someone else get the credit for their inventions and discoveries and that someone else would be the first to fly.
- 16. They waited until they were sure it was safe.
- 17. They chose France for their first flying exhibitions. That is where many other inventors were flying or demonstrating.



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