

Cut along the dotted lines to make your yery own to read make your very own tangram!

CHRISTINE LIU-PERKINS

is a writer and researcher who specializes in Chinese history and culture. Her book At Home in Her Tomb: Lady Dai and the Ancient Chinese Treasures of Mawangdui unearths one of China's top archaeological finds of the last century. She has a PhD in educational psychology. Born in Boston and raised near Kansas City, Christine now lives in Colorado.

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BLOOMSBURY CHILDREN'S BOOKS



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to find a dragon to bring rain. Will you help me?"

THE QUEST FOR A DRAGON NGRAM

Christine Liu-Perk omsburgeburgeburgehildren's Books *for review purposes only* **Christine Liu-Perkins**

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<u>\$18.99 U.S.</u> \$24.99 CAN.

brave Little Triangle seeks a Chinese dragon to end the long drought. On the guest, Little Triangle meets other shapes who want to help. Using the magic of tangrams, the shapes do amazing things together:

Two triangles flip and flap to make a butterfly!

With a square, they swap and swivel to make a bat!

> Four shapes jump and bump to become a bird!

But there's still no sign of the dragon they need.

They travel until they reach a mountain, but no matter how much they hop and plop, huddle and muddle, or leap and heap, the shapes can't find a way to the top. How will they ever find the dragon they're searching for?

Author Christine Liu-Perkins and illustrator Lynn Scurfield celebrate the tangram, a classic Chinese dissection puzzle, in this clever and warmhearted story about the power of persistence and teamwork.



illustrated by Lynn Scurfield

INCLUDES

A CUT-OUT

TANGRAM

PUZZLE!







To Steffi and Mindy, two of my favorite puzzle-solvers. —C. L.-P.

To Sandee, who gave me invaluable teaching tips and lent me her tangrams to play around with for this project, to Allegra for the most helpful art advice when I needed it the most, and to my parents, Bingmei and Jeff, for their constant support.

—L. S.

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THE QUEST FOR A THE QUEST BOR AGON TANGRAM

Christine Liu-Perkins illustrated by Lynn Scurfield

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The shriveled grass and wilted leaves needed water. Little Triangle decided to search for a good, kind dragon to bring rain to the thirsty land.



Whoops!—it fell over, tumbled down a hill, and bumped into . . .

.10

... another small triangle.

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"Nǐ hǎo! Hello!" said Little Triangle. "I am on a quest to find a dragon to bring rain. Will you help me?" "I don't know how," said Second Little Triangle. "We'll figure it out together," said Little Triangle.

They stood on the edge of a meadow. If they lined up right, could they cross it together?

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The two shapes flipped, flopped, and flapped.



They made a bigger triangle.



A square.



When they bumped heads, they turned into a butterfly!

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Up, up, up they rose. They searched and searched. But no dragon.



They saw a square. "Nǐ hǎo!" Little Triangle called. "Will you help us find a dragon?" "Sure!" said Square. "I like adventures!"

The three shapes switched,









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into a bat. "Now we can listen for a dragon!"

They heard singing! Was it a dragon?

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A.

"Stretch to the left. Stretch to the right. Flip, flip over.

I can dance all night!"

They saw a parallelogram singing and dancing.

"Nǐ hǎo!" Little Triangle called. "Will you help us find a dragon?" "That sounds like fun!" said Parallelogram.

The four shapes jumped, bumped, and lumped.





They turned into a bird and flew into the forest ...

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Smack!—right into a medium triangle hanging from a tree.

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"Ouch!" said Medium Triangle.

"I'm sorry!" Little Triangle said. "We were looking for a dragon. Will you

"I'm not sure I want to help you," said Medium Triangle. "Besides, you already have two triangles."

"You're bigger," Little Triangle said. "You could help us make more things."

The five shapes stumbled, jumbled, and tumbled for a way to cross the river. When they formed a fish, they flipped into the water.

They searched along the muddy bottom. But no dragon.

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O°

They needed to get back on land, so they made a dog and paddled to shore.

There they found a big triangle stretching. "Nǐ hǎo!" Little Triangle said. "Will you help us find a dragon?" "Oh!" said Big Triangle. "That could be dangerous." "But it's important," said Little Triangle. "All the plants are thirsty."

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The six shapes angled,

tangled,

and wrangled.

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They turned into a horse. They searched across the grassland. But no dragon.



The shapes grew hot, so they rested in the shade of a tent.

But it was not a tent. It was another big triangle. "Nǐ hǎo! Do you want to find a dragon with us?" "Hmm," said Second Big Triangle. "I heard there is one on top of that mountain."

How could they reach the top of the mountain?

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"This is impossible," said Medium Triangle.

"I'm getting tired," said Square, sinking down.

"This isn't fun anymore," Parallelogram said, and started plodding away.

"Wait!" Little Triangle said. "We can't give up now! Please, let's try one more time."



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Little Triangle, Square, and Parallelogram lined up.



Medium Triangle and Second Little Triangle lined up next.



"Something is missing in the middle," said Little Triangle. They made room for the two big triangles. And then ...

"We didn't just find a dragon," Little Triangle shouted. "WE ARE A DRAGON!"

> Triumphant, they soared into the sky, breathing out clouds that showered rain over the thirsty land.

A tangram is a puzzle composed of seven standard pieces (called tans): one square, one parallelogram, and five triangles—two small, one medium, and two large. Often, a tangram set 4 includes a book or deck of cards that depict silhouettes of geometrical configurations. To play, arrange the tans, flat and not overlapping, to recreate the configuration on your card or the 0 page of your book. For even more fun, arrange the tans into a configuration you invent! As I wrote this book, I wanted to encourage beginners in building up their tangram-solving skills. Traditionally, a tangram must use all seven tans, but I experimented with fewer pieces. I started with just two pieces; that helped me see different ways each piece could be turned and positioned in relation to the other piece. Then I tried three, then four, five, and six pieces, creating as many configurations as I could think of. The animals in this story have positive meanings in Chinese culture. Butterflies represent joy, beauty, and long life. Bats are popular symbols of happiness, good fortune, and long life. The swallow is a bird that conveys happiness and good fortune. Fish signify abundance and wealth. Dogs symbolize faithfulness and family harmony. Horses exemplify speed and perseverance.

In the world of Chinese myths, magical dragons rule over the other animals. Chinese dragons are kind and protective, and bring rain—in contrast to fearsome, fire-breathing Western dragons. They can fly without wings. They are often shown amid clouds or waves to highlight their power over water. In times of drought, people would pray to dragons for rain.

Tangrams originated in China, where they are called Qīgiǎobǎn, meaning "seven ingenious pieces." Although exactly when they were invented is unknown, the first book of tangram problems was published around 1800. Tangrams were inspired by early Chinese mathematical methods of cutting squares, cubes, and other solids into smaller pieces (dissection). These pieces were then rearranged to calculate height, distance, area, and volume. These dissection and rearrangement techniques were valuable in farming, surveying, engineering, and astronomy. Early Chinese mathematicians used dissection and rearrangement to demonstrate the Gougu theorem (commonly called the Pythagorean theorem). The craze for tangrams quickly spread to the Western world after sets of Chinese tangrams and books crossed the seas to America and England. Starting in 1817, tangram books were published in England, America, France, Italy, Germany, the Netherlands, Sweden, Denmark, Switzerland, and Austria. Adults and children alike enjoyed the challenge of solving the puzzles.

Tangram puzzles enhance problem-solving skills, concentration, persistence, and logical thinking. They also facilitate learning mathematical concepts such as properties of polygons, size, congruence, symmetry, similarity, spatial rotation, area, perimeter, spatial relationships, fractions, and dissecting and rearranging shapes. Together, the seven tans can form several thousand configurations! Tangrams can also be used to encourage storytelling and creativity. I invite you to dream up your own stories and art using tangrams from this book or other sources. Or you can use tangrams that you invent yourself!

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AUTHOR'S NOTE

TANGRAMS: FROM EAST TO WEST

TANGRAMS = THINKING + MATH + STORY + ART = FUN!



