



White Rabbit
Presents

Alice's Wonderland

a most curious adventure

Cubic Conundrums

In her adventures in Wonderland, Alice solves many puzzles and faces many challenges. In today's activity, you get the chance to make your own puzzle and solve it, too!

Alice begins her adventures at a peaceful spot along the river where she is beginning to get bored. At just that moment, she glances up to see a rabbit who is worried about being late. Alice follows the White Rabbit down his hole and falls into a long, low hallway with doors all around. All of the doors are locked, and the door to the garden, where she would most like to go, is too small for her to fit through. Alice must use her best problem solving skills to solve the puzzle of the Hall of Doors to get out into the garden. □



What You'll Need:

At least 3 sheets of paper

Pencil or crayon

Scissors

Square pattern

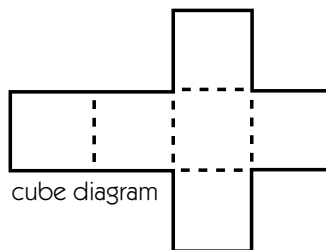
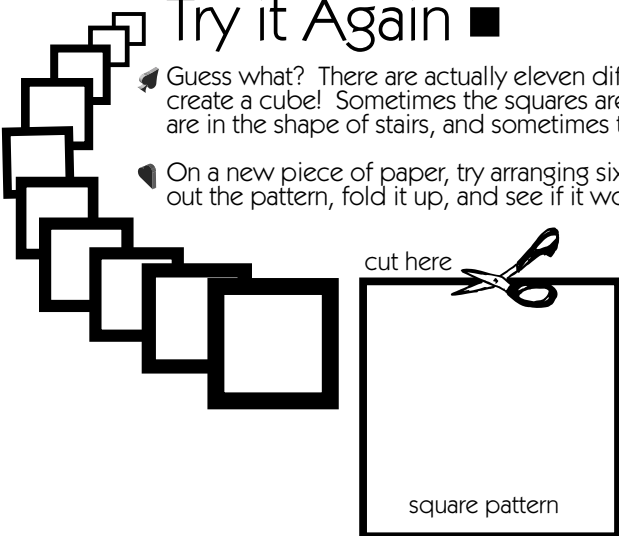
Tape

Try it!

- ♣ What comes to mind when you think of a cube? An ice cube? A block? A cardboard box? A cube is actually 6 squares put together to make a three-dimensional shape.
- ♦ Imagine cutting a box apart and laying it flat on the floor. You would find six squares all hooked together. When you fold the flattened box up again, you create a cube. In this activity, you'll make your own cube.
- ♣ To start, find the cube diagram on this page. It's an arrangement of six squares together in the shape of a cross. This diagram will be your guide.
- ♦ Cut out the square pattern found on this page. Trace a square on a sheet of paper. Then, using the cube diagram as a guide, trace five more squares, connected to the first, in the pattern shown in the cube diagram.
- ♣ When you have six connected squares on your page, this becomes your cube layout. Cut it out and fold your paper on the lines between the squares. Does it form a cube? If it doesn't, try folding it in the other direction. Put a little tape on the loose edges. You've created a cube from six squares!

Try it Again

- ♣ Guess what? There are actually eleven different ways to arrange the squares on the paper to create a cube! Sometimes the squares are next to each other in pairs. Sometimes the squares are in the shape of stairs, and sometimes they look more like the letter "z."
- ♦ On a new piece of paper, try arranging six squares into a new and different cube pattern. Cut out the pattern, fold it up, and see if it works. See if you can find all eleven arrangements!



Did you know?

Conundrum is another word for "puzzle" or "play on words."

Lewis Carroll, who wrote Alice's Adventures in Wonderland, loved math. He created many word and math puzzles for his friend Alice to solve.

Mathematicians are people who use patterns and numbers in their careers. If you like solving puzzles or playing word games, you might enjoy a career in math.



Adventure into a book or newspaper

- 1 Use a picture from the newspaper to make your own puzzle. Look through the newspaper to find a picture you like. Cut out the picture and glue it onto a piece of paper or cardboard. Cut the picture into different puzzle pieces. Ask your parent or a family member to try to put your puzzle together again.
- 2 Look through a book or the newspaper for word puzzles. Can you solve them? Choose different words from your book or newspaper to make your own word puzzles.

Down the Rabbit Hole to Children's Discovery Museum

"Alice's Wonderland: A Most Curious Adventure" opens February 2, 2002. In this exciting new exhibition, children will crawl through a rabbit hole, chase a White Rabbit, experience falling optical illusions, and find that they can grow and shrink just as Alice does. Join us for the fun!

Curiouser and curiouser...

Check out these Internet sites to find more puzzles written by Lewis Carroll that you can solve:

<http://thinks.com/puzzles/carroll/carroll.htm>

<http://thinks.com/words/doublets.htm>

<http://www.coolmath4kids.com>



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