

## Welcome to your Rubik's Cube

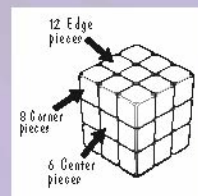
RUBIK'S Cube is just one of a series of exciting puzzles designed to challenge the mind and capture your imagination. With amazing movement of color and pieces, each puzzle offers an intricate challenge that is hard to put down. And just in case it has you stumped, each puzzle comes with a Solution Hints Booklet to help you master the challenge.

**RUBIK Fact:** RUBIK'S Cube was invented by Erno Rubik, a Hungarian Professor of Architecture and Design. Within one year of its launch in 1980 it became the fastest selling puzzle the world has ever known. Rubik's Cube is now the best selling puzzle ever with over 250 million cubes being sold.

**RUBIK Fact:** Most scrambled cubes can be solved in only 17 turns with the aid of a computer, and so far no one has found a scrambled position that requires more than 20 twists to solve it. There are some people who can solve the cube in under 45 turns from any scrambled position, and a few who can even solve the cube blindfolded.

## 7 Step Solution Guide

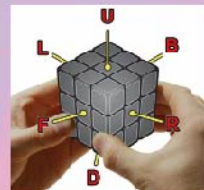
This solution will help you solve your cube in seven easy steps. First you need to become familiar with your cube and its pieces: Edges, Corners, and Centers.



Edge pieces have two colours, corner pieces have three colours, and the centers have one colour. The center pieces are physically attached to the mechanism inside, so they cannot be interchanged. For example, the red center will always be opposite the orange center.

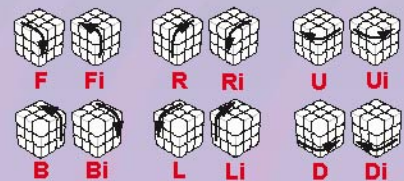
Each face of the cube is referred to by a letter, like this:

**F** - Front Face  
**B** - Back Face  
**R** - Right Face  
**L** - Left Face  
**U** - Top Face  
**D** - Bottom Face

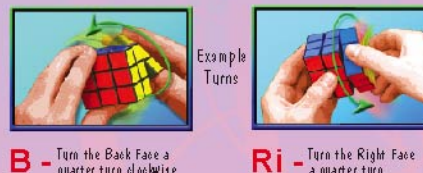


## How to use the solution -

We use the name of each face to indicate a turn of that face. For example, **R** means, "Turn the right face once clockwise," and **Ri** means, "Turn the Right face once counter-clockwise."



The names of the faces are relative, meaning that **F** always refers to whichever face you are holding in front. If you were to turn the whole cube, then the new front face would become **F**. Use the above diagrams as you work through the solution.



## Step 1 - Solve the Upper Green Cross

**HINT:** To solve the green cross, you have to solve each green edge piece on your own, one-by-one. The tricky part is not messing up the ones you've already solved. First solve the red-green edge, then the white-green edge, then the orange-green edge, then the yellow-green edge. You have to figure this part out for yourself.

Should you ever have an edge piece in the correct place but flipped the wrong way, use this step to flip it without affecting the other three green edges. Just hold the cube with the piece in the upper-right position as in the picture below, and do the sequence **Ri U Fi Ui**. The edge piece will now be solved, and you can work on the next edge piece. Note: the colors on the sides of the cross must match the center stickers below them, as in the picture.



## Step 2 - Solve the Green Corners

**HINT:** Find a corner piece in the bottom layer that belongs on top. Turn the bottom layer until that piece is directly below its home in the top layer. Hold the cube with the piece at the lower-front-right and its home at the upper-front-right, as in the picture, and then do the sequence **Ri Di R D** 1, 3, or 5 times until that corner is solved.

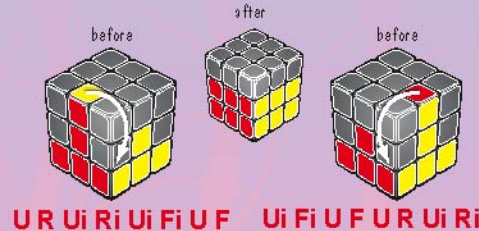
If you find a corner piece that's already in the top layer but it's in the wrong spot or flipped the wrong way, just hold the cube with that piece in the upper front right position, and do **Ri Di R D** once. Now the piece is in the bottom layer, and you can solve it as described above. After you finish the first piece, you must solve the other three corners before moving on.



## Step 3 - Solve the Middle Layer Edges

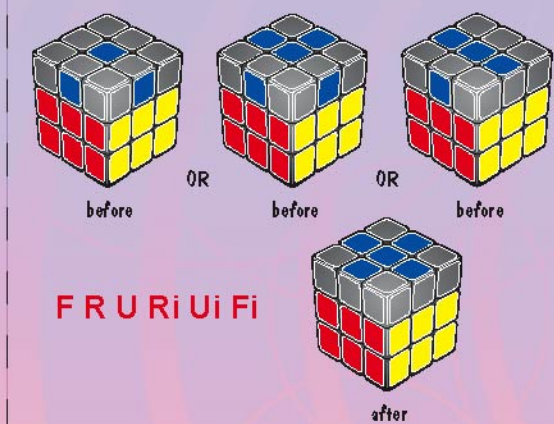
**HINT:** Now flip the cube over so green is on the bottom. Try to find the red-yellow edge piece. If it's in the top layer, do **U** until the edge matches one of the pictures below. Then do the corresponding sequence to solve it.

If the red-yellow edge piece is somewhere in the middle layer, but it's in the wrong place or flipped the wrong way, hold the cube so that the red-yellow edge is in the front-right position, and do either sequence once. (This may require you to rotate the cube to a new front face). After the move, the piece is in the top layer, and you can solve it as described above. Repeat this for the other 3 middle-layer edges. When you finish the first piece, you must solve the other three edges before moving on.



## Step 4 - Solve the Top Layer Edges

**HINT:** Turn the top layer until the edges match one of these pictures. If you do the sequence below once and you still don't have a blue cross, then repeat this step until you do. It doesn't matter which face you start with. Don't worry about the colours on the sides of the cross- they will be fixed on your next step.



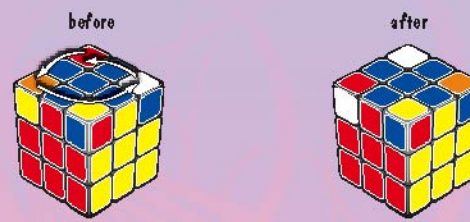
## Step 5 - Solve the Top Edges

**HINT:** Hold the cube with red in front. Turn the top layer until the red and blue edge piece is solved as in the picture, and then repeat the sequence below until the yellow and blue edge piece is also solved, on the right side. Now turn the whole cube so that white is the "Front" face. If the top white edge isn't solved, just do the sequence once more, followed by **U** to position all the edges properly.



## Step 6 - Solve the Top Corners

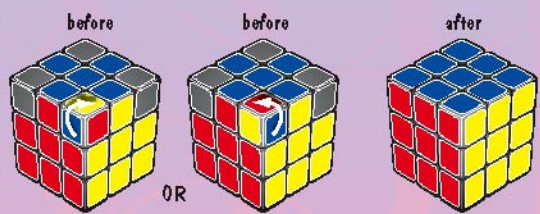
**HINT:** Find a corner piece that's in the right place, and hold the cube with that piece above your right thumb. In the picture, this piece is the blue, yellow, and red piece. Notice that in the picture below, this piece is not completely solved, but it is still in the right location. Don't turn the top layer at all, because you will mess up the edges that you just solved in step 5. Now do the sequence below once or twice to put the other 3 corners into the right places. If you can't find a corner piece in the right place, just do the sequence below once before you start this step. Don't worry if the corners are still twisted the wrong way (as in the picture below)-they will be fixed in the next step.



## Step 7 - Solve the Top Corners

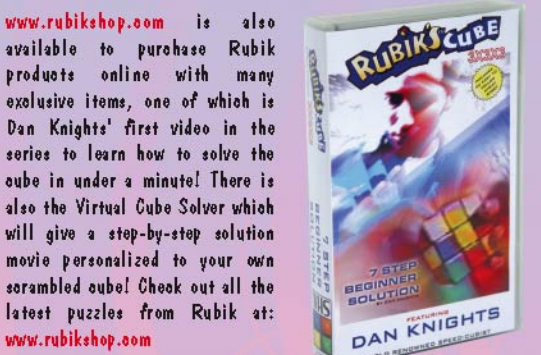
Hold the cube with red in front. Do **U** until the upper-front-right corner needs to be flipped as in the pictures below. Do the sequence below either 2 or 4 times to flip the corner so that blue is on top. Don't worry if the bottom of the cube gets scrambled during this step - it will be solved again by the time you finish.

With red still in front, do **U** until another corner that needs to be flipped is in the upper-front-right. Do the sequence again (either 2 or 4 times) to make that corner blue on top. Repeat this process until each corner is flipped correctly, and be sure to keep the red face in front the entire time. When all the corners have been flipped, just turn the layer to solve the cube. Congratulations.



## www.rubiks.com

"The Rubik Internet Website" is an international meeting point for both Rubik's enthusiasts and casual puzzlers. It is one of the best designed free entertainment pages on the Internet. There are puzzles, competitions, free downloads, hints, solutions and bulletin boards. The Website is regularly updated with fresh puzzles and competitions. [www.rubiks.com](http://www.rubiks.com) is designed to be fast and fun, so go for it, log on now.



## Billions of Combinations, One Solution!

**RUBIK'S Cube** is the incredibly addictive, multi-dimensional challenge that has fascinated puzzle fans around the world. Over 250 million cubes have been sold and at least one in every five people in the world has twisted, jumbled and enjoyed this immensely popular puzzle.

**RUBIK'S Cube** has been called "the perfect puzzle" and "the best puzzle ever." With a few turns, you mix up its small colored cubes. Now match the cubes back up again to make every side a solid color. You can solve **RUBIK'S Cube** from any starting point and from any topsy-turvy arrangement of colors. With the right twists, anybody can do it, and with 43 quintillion (43,252,003,274,489,856,000) combinations, no challenge is ever the same!

**RUBIK Fact:** 22.95 seconds! That's how long a high school student from Los Angeles took to unscramble the cube and win the Budapest world championship in 1982.

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**RUBIK'S CUBE**

**RUBIK'S CUBE**

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 by Dan Knights  
 For 1 Player AGES 8 to Adult