

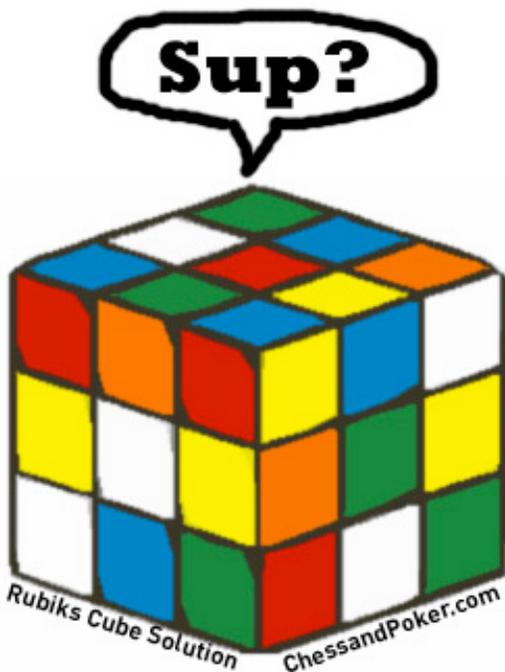
# [Rubik's Cube Solution](#)

## How to Solve the Rubik's Cube in Seven Steps

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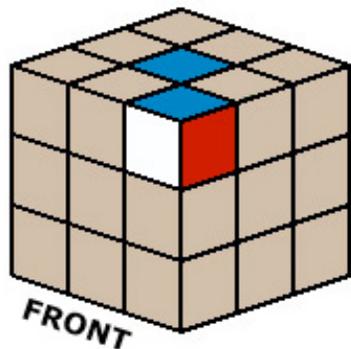
The world's most famous puzzle, simultaneously beloved and despised for its beautiful simple complexity, the Rubik's Cube has been frustrating gamers since Erno Rubik invented it back in 1974. Over the years many brave gamers have whole-heartedly taken up the challenge to restore a mixed Rubik's cube to its colorful and perfect original configuration, only to find the solution lingering just out of their grasp time and time again. After spending hours and days twisting and turning the vaunted cube in vain, many resorted to removing and replacing the multi-colored facelets of the cube in a dastardly attempt to cheat the seemingly infallible logic of the cube, while others simply tossed it to the side and dubbed it impossible. The Rubik's cube, it seemed, had defeated all.

Humanity required a solution, so intelligent gamers went to work to take down the so-called "frustration cube". Amazingly, not only did they discover a solution, they formulated *many* of them, ranging from beginner-level to advanced. One of these bright bulbs was Denny Dedmore. Not only did he discover an efficient and fool-proof solution for solving the cube, he also provided several amazing "algorithms" (move-sequences) which made following his talented solution very simple. Mr. Dedmore completed his now easy-to-master solution by inventing the brilliant move notation found throughout the guide, which made explaining the various twists and turns necessary to solve the Rubik's cube visually understandable.

We are now proud to bring you the stunning Rubik's cube strategy guide originally developed by Denny

Dedmore, now optimized and refreshed by Chess and Poker Dot Com, that will allow all of us to claim vindication and defeat the previously unbeatable Rubik's cube. Take your time, work through all of the steps until you understand them and you'll be able to successfully solve the rubik's cube. Finally!

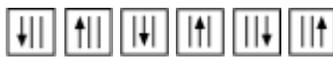
## Rubiks Cube Terminology and Move Notation



The terms used in the Rubiks cube strategy guide are well-known to the cubing world. The squares that make up the Rubiks cube are known as Cubies. The colored stickers on the fronts of all the Cubies are known as Facelets. There are three types of Cubies: Corners, Edges and Center Cubies. Corners have three facelets, edges have two and the center Cubies have only one facelet. Notice that in our graphic there is also a label under one side of the cube that says "Front". Since all of the diagrams are shown at an angle, also showing the right and top sides of the cube, it's important to always look at the cube from the *front perspective* when making your moves. Showing the cube at an angle is necessary because you will have to make different sets of moves based on various arrangements of Cubies on both of these other two sides.



This group of notation graphics indicate which direction the various horizontal *rows* of the Rubiks cube should be turned. There are 3 different rows.



This group of notation graphics indicate which direction the various vertical *columns* of the Rubiks cube should be turned. There are 3 different columns.



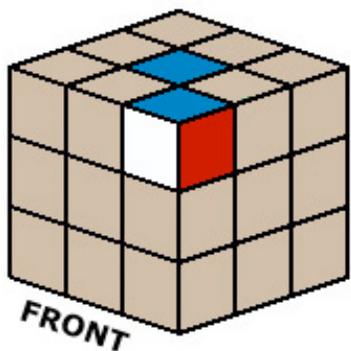
These notation graphics indicate which direction the *entire front face* of the cube should be turned.

Now that you know the terminology used throughout the strategy guide, let's learn how to understand the move notation graphics. Utilizing the Rubik's cube move notation chart, you can find the definitions of each tiny graphic. The first two sets show which horizontal row or vertical column should be moved, and in which direction. When looking at the front of the cube, the top three horizontal Cubies make up the top row. The middle horizontal row of cubies (from the top or bottom) make up the middle row, and finally the bottom three horizontal cubies make up the bottom row. So what about the columns? Still looking at the front of the cube, the three vertical cubies on the left make up the left column. Then the next three vertical cubies make up the middle column and the last three vertical cubies make up the right column. But what

about the looping arrow notation graphics?

When you are looking directly at the front of the cube, which you should *always* be doing, the nine Cubies with various facelets that you see are known as the front face of the cube. When you see the "turning arrow" notation graphics from the third set, they are instructing you to turn *all nine of these cubies at the same time* to either the right (clockwise) or left (counter-clockwise). So instead of moving individual rows or columns, when you see these graphics you should turn the *entire front face* of the cube to the direction indicated. Using these and the other notation graphics explained above you are now ready to begin solving the cube. But before you begin, we suggest that you first play around with the cube for a while and try to understand these moves and how they move the various parts of the cube around. Some of the moves can be a bit tricky for your fingers. For example, when you are moving a middle row or column, you in fact must move *two* columns or rows, and then turn the non-middle one back to it's previous spot. This is because the middle rows or columns do not move independently. Don't forget to move the other row or column back! Once you are comfortable with all of the moves, it's time to solve.

## The Seven-Step Guide to Solving a Rubiks cube



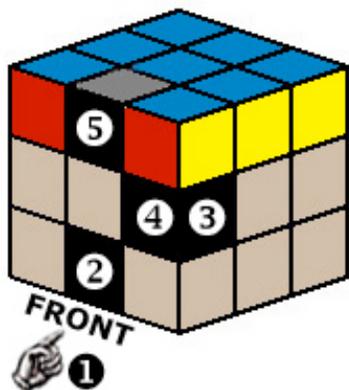
To begin the solution, we must first prime the cube. To do so, simply pick a corner cubie and turn it so that it is the upper-right-hand corner cubie on the front of your cube. It can be any color, but for our example we will be using the Blue-Red-White corner as shown, with the white facelet on the front, the red facelet on the right and the blue facelet on the top. Then, you must turn the rest of the cube around until the top color of your selected first corner cubie also matches the center. Our top color is blue so we must turn the blue center cubie around to the top of the cube. You can move the Blue center around in any direction you want until it arrives at the correct top-center position as shown. By priming the cube in this way, you have already solved two of the top row cubies. We are now ready to solve the rest of the cube.

We used (and pretty much destroyed) our [Collector's Edition Rubik's Cube](#) when developing our Rubik's cube guide.

### Step One: Place the Top Row Corners



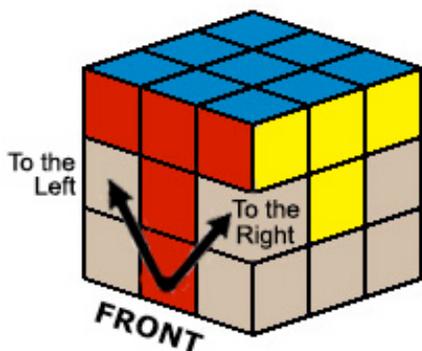
## Step Two: Place the Edges and Finish the Top Layer



Now that we know the general ideas on how to find the proper target cubie and then move it into position, we're ready to finish the top layer. Keeping the above concepts in mind, we must now find the target edge cubies (those that will complete the top row) and move them into the new target positions, again colored black here. Simply turn the bottom and middle layers until the target cubie is in one of these spots, and based on which side the top color (blue) is on, select from the following algorithms to move it into its place. When you are finished with step two, the entire top layer of the cube is solved.

**1**
**2**
**3**
  
**4**
**5**

## Step Three: Align the Centers and Place the Middle Layer Edges



To begin step 3, you must first turn the middle layer around so that the center cubies in the middle layer all match with their top layer counterparts. In our example, you can see that the red center and yellow center match up with their respective colors above them. This is known as forming the Half-T. Once you have the centers aligned, you've already partially solved the middle layer. The only thing left to do is place the remaining edges.

Now, turning only the *bottom* row, we will position the target cubie so that it will match up with its same-color center forming the Full-T. In our example, we have turned the bottom row around so that we have formed a Full Red T on the front of the cube. We may be ready to place this cube into position, but we must first check to make sure it is indeed the correct edge. On our cube, we would need the bottom of the

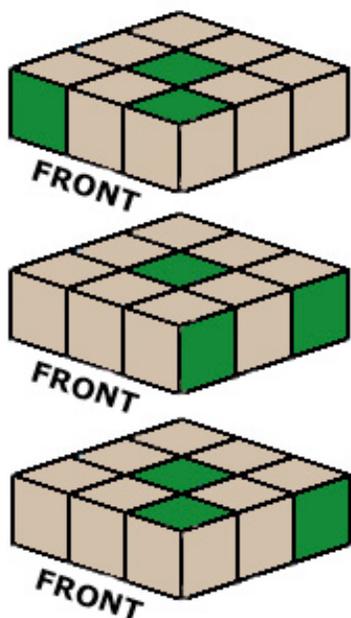


that's all you have to do for this step! We'll be flipping all of these corners around to finish them in Step Five. Here are the maneuvers used to arrange the corners into their correct positions, although not yet solved:



Many times you can take a look around the unfinished top layer and find the two Red corners already side-by-side. If that's the case, just turn the top layer around so that both Red corners are on the Red front (without disturbing the two finished layers below of course). Then you'll just have to use the "Switch One and Two" maneuver to move them back and forth to the proper sides. Concerning the Orange corners, you must turn the entire cube around (not moving any rows or columns) so that the Orange side is now the front. Then you can perform the switching maneuvers as needed. If two Reds are *diagonal* from one another (the red corners are currently at positions 2 and 3), perform the "Switch One and Three" maneuver to bring them side-by-side. When you have finished this step, your cube will have the corners arranged to their proper positions, but probably not yet finished.

## Step Five: Completely Finish the Last Layer Corners



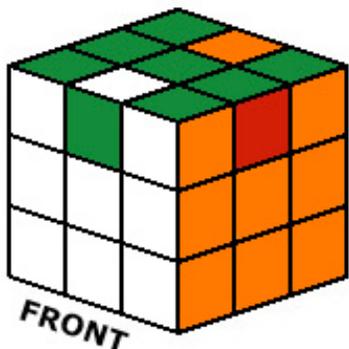
In this step, we will flip all of the last layer corners around into their final finished positions. On our cube, Green is the last layer color. To solve the corners, we will focus on three different configurations concerning the Green facelets. Using the graphic to the left, hold your cube so that when you are looking at the **front** you can see any of these Green facelet configurations *exactly* as shown. For this step, none of the other remaining facelets (or the rest of the cube) matter so they are not shown, including any other Green facelets on the last layer. Once you've located one of the three arrangements, perform the following algorithm:



Remember that while two of the configurations (the middle and bottom) require the green facelets be

located on the right side of the cube, it's still necessary to perform the algorithm above from the front. You'll have to perform this algorithm several times, and you'll need to use *at least two* of the three different configurations to continue (finding the same configuration over and over again will just get you stuck). If you couldn't find one of the starting configurations to begin this step, perform the algorithm once and then you'll be able to find one of them.

## Step Six: Completely Finish Two Edges and Prepare the Remaining Two

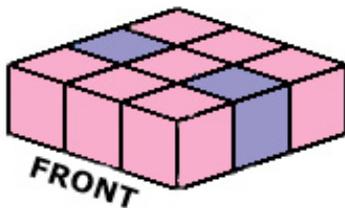


You should now find that you have also placed at least one of the remaining last layer edges into its final position, although not necessarily turned around correctly. Turn the entire cube around so that the side with a correctly positioned edge is now the front (in some cases, you'll have a couple to choose from). In our diagram, the side with the Green-White edge is the front because the edge is in its proper place (just needing to be flipped over). Then perform the following repositioning algorithm to move the rest of the edges into their proper places (up to two times). If you couldn't find a correctly positioned edge to start with, perform the algorithm once from any front and then proceed as usual.

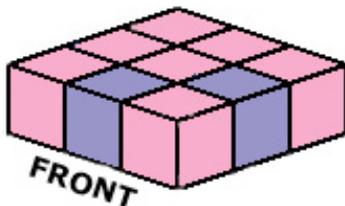
From the Correctly-Positioned Edge Side

## Step Seven: Solve the Rubik's Cube

Dedmore "H" Pattern



Dedmore "Fish" Pattern



We are now ready to completely solve the Rubik's cube. At this point,





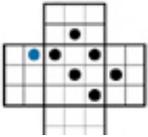
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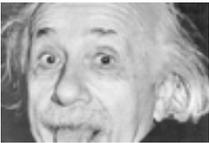
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