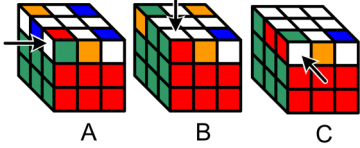


MOVE 4. FIX THE CORNERS

Solve the corners using move 4, which flips 3 corners but leaves the top-left-front corner alone. It's the key to setting up the move, so let's call it the NC (no change) corner.



Case 1: If no corners are solved (fig. A), do move 4 with the top color on the left face of the NC corner to get case 2. Think "none left".

Case 2: If 1 corner is solved (fig. B), do the move with the solved corner in the NC position. Logical, no? This either solves the corners or gives you case 2 again.

Case 3: If any 2 corners are solved (fig. C), put a bad corner in the NC corner with the top color towards the front to get case 2. Think "too forward."

MOVE 5. FIX THE EDGES

You fix bad edges with move 5, which shifts the front edge to the back, the back edge to the right, and the right edge to the front. If, instead, the front edge needs to go to the right, do the move twice or, better yet, reverse both of the U turns.

The setup is simple.

Case 1: If all 4 edges are bad, do move 5 once with any face forward.

Case 2: When 1 edge is solved, start move 5 with the solved edge on the left.

When all 4 edges are solved, you're done!

BEGINNER'S GUIDE TO THE RUBIK'S CUBE

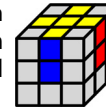
FROM WWW.HOWTOCUBE.COM

FIRST LAYER

You're going to solve your cube in layers from top to bottom. To get started, we need to pick a color to be the top. Let's say yellow. Hold the cube so the yellow center piece is facing up.

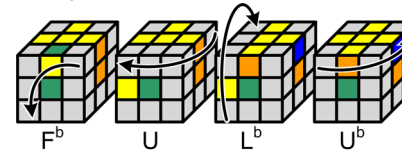
Your first mission is to solve the yellow edge pieces. Edge pieces are the ones with 2 colors as opposed to corners, which have 3 colors, or centers, which have one.

The edges are solved when each color matches up with the adjacent center. You'll have a yellow cross on top.



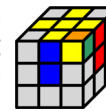
Go ahead and try this on your own. It will take a while if you've never picked up a cube before. Mr. Rubik himself took a month to solve the puzzle.

You can use the bottom layer to move a piece to the side with the matching center, then spin the side 180° to get it to the top. If you get an edge that needs to be flipped, like the yellow-green one shown below-left, you can fix it with the following turns. See the sidebar for an explanation of the turn notation.



When you've solved the top edges and have a the cross, you're well on your way. Your next task is to solve the top corners to complete the layer. Remember to keep yellow on top as you go.

1. Look for a yellow corner piece in the *bottom* layer. If you find one, skip to step 3.
2. If you don't, orient the cube—without turning anything—so you have an unsolved yellow corner piece on the right side, on top,

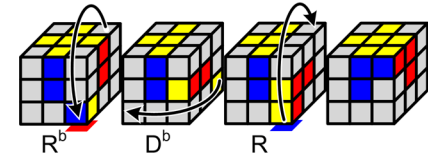


as shown. Now you can do the turns in 4a or 4b to move the piece to the bottom layer.

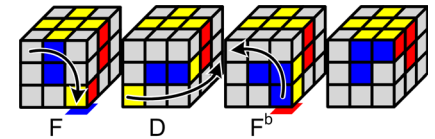
3. The yellow corner needs to be *under* its target position—the place it belongs in the top layer. Use the edges to guide you: if the corner's other colors are blue and red, it's target is between the blue and red edges as shown. Turn the *bottom* layer to position the corner piece under its target.



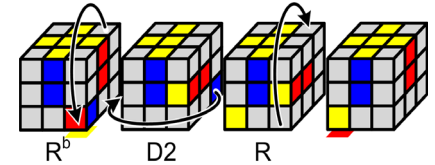
4. Check the corner's bottom color. If the bottom matches the (a) right side (red), do these turns:



(b) front side (blue), do these turns:



(c) up side (yellow), flip the corner using the turns below.

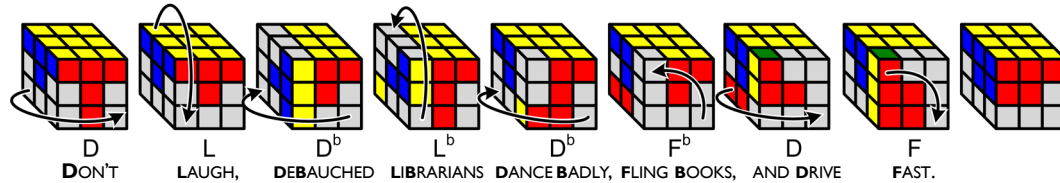


Keep at it until all 4 corners are solved.

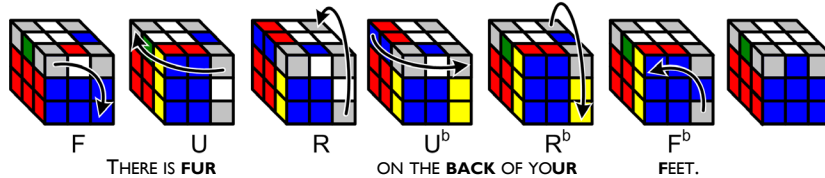
TURN NOTATION

- Letters indicate which side to turn: **U**p, **D**own, **L**eft, **R**ight, **F**ront, **B**ack.
- Alone, a letter indicates a 1/4 turn clockwise as you face the side.
- ^b (back) indicates a counter-clockwise turn.
- 2 indicates a half turn, 180° either way.

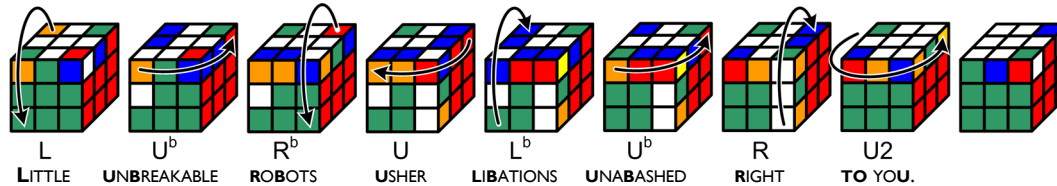
MOVE 1: SOLVE SECOND LAYER



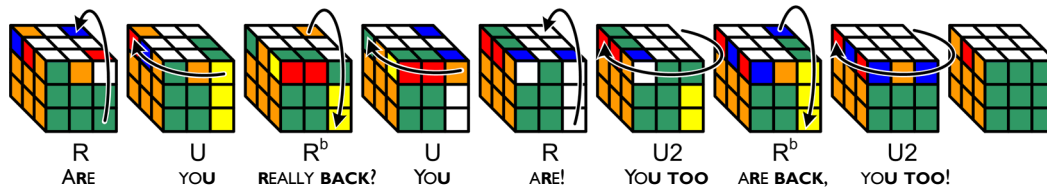
MOVE 2: MAKE A CROSS



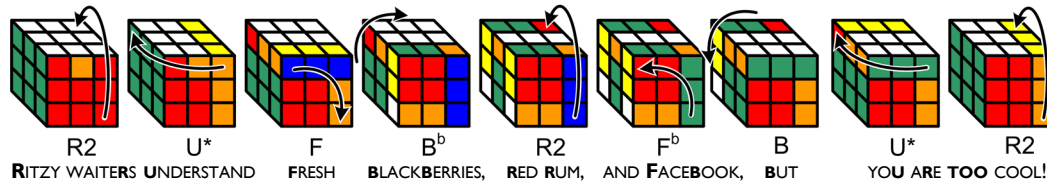
MOVE 3: POSITION THE CORNERS



MOVE 4: FIX THE CORNERS



MOVE 5: FIX THE EDGES



*Reverse U turns to move pieces other direction; see text.

This guide is in no way associated with, sponsored, or endorsed by the owners of the Rubik's trademark.

The algorithms were taken from Jasmine Lee's cubing page at <http://peter.stilhq.com/jasmine/rubikscubesolution.html>.

SECOND LAYER

From here on, you'll be using the moves shown to left to solve the cube. A move is a sequence of turns that solves unsolved pieces without unsolving solved ones. Be careful to keep track of the front face as you do the turns.

Move 1 is all you need to solve the 2nd layer. It shifts an edge piece from the bottom-middle to the middle-left of the front side. Use it to solve the case 1 pieces first, then use it to solve the others.



Here's how. Look for a 2nd layer edge piece in the bottom layer. If you find one, turn the bottom layer to match the edge up with a center, making a T on one of the side faces.

Case 1: When the color on the bottom of the T matches the side to the left, do move 1 with the T in front to solve the piece.



Case 2: When the color on the bottom of the T matches the side to the right, do move 1 with the T on the left to flip the piece and get case 1.



Case 3: When there are no solvable pieces on the bottom, do move 1 with an unsolved piece in the middle-left-front position.



THIRD LAYER

MOVE 2, MAKE A CROSS

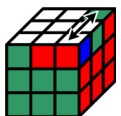
Use move 2 to form a cross on the face of the 3rd layer. Don't worry about lining up the sides.

To set it up, flip the cube so the solved layers are down. Look at the top face: move 2 works when the left and back edges match the center. Can you rotate the cube to get that pattern? If not, do move 2 with any face in front until you can.



MOVE 3, POSITION THE CORNERS

You position (but don't solve) the corners with move 3, which swaps the top-right corners. *There are always 2 corners that can be placed correctly before you do the move.* The trick is to find them.



Case 1: When one or no corners are correctly placed, turn the top layer and check again. Keep looking until you find them!

Case 2: When adjacent corners need to be swapped, orient cube with the bad corners at the top-right and do move 3.

Case 3: When diagonal corners need to be swapped, do move 3 twice, the first time with any face forward.