Solve the Rubik's Cube in 10 Steps

This guide uses standard Rubik's cube notation.

Notation

U means upper face.
D means down face.
L means left face.
R means right face.
F means front face.
B means back face.

A single letter means a 90° turn of that face clockwise (when looking at the face). A letter followed by a 2 means a 180° turn of that face. A letter followed by a ' means a counter-clockwise turn of that face. A lowercase letter means to turn a face plus the middle face behind it.

Always hold the cube so that it has a top, bottom and front. In the pictures in this guide, the front face is turned slightly left so that you can see the right side. A side's color is determined by it's center color.

Step 1: Solve the Cross with Correct Edges

If you cannot figure this out on your own, check out http://bit.ly/solve-the-cross.

Step 2: Solve 3 Lower Corners

Turn the cube yellow-side up.
Find a corner with white facing sideways in the upper layer.
Bring the non-white sideways-facing color to the side it belongs on.

If that color is on the left of the cube...
L' U' L

If that color is on the right of the cube...
R U R'

Step 3: Solve the Middle Edges

Find an edge in the upper layer that has no yellow.
Bring the edge to the side that has the color of the top of the edge.
Place the unsolved corner under the place where the edge will go.

If that place the edge should go is on the left of the cube...
L' U L

If that place the edge should go is on the right of the cube...
R U' R'

This is the same algorithm as for corner insertion algorithm, except the U turns the other way.
Repeat this step until all middle edges are solved.

Step 5: Orient the Last Corner

Find the last corner in the upper layer with white.
Place it in the upper-right-front position.

If the white is on the left side of the piece, move the it to the back-left (perform a U2)
If the white is on the left side of the piece, move the it to the back-right (perform a U')
If the white is on the top of the piece, skip this step.

Perform 3 **cycle moves**.
The cycle move: **R U R' U'**

Step 6: Solve the Last Corner

Rotate the cube so that the bottom-right has the unsolved corner.
Place the unsolved corner above the unsolved corner.
Perform 3 cycle moves.

Step 7: Solve the Yellow Cross

Ignoring the corners, you have a few possibilities for the top face:

If you have a line, make it horizontal and execute...
F R U R' U' F'
or **f cycle F'**

If you have an L, rotate it as shown and execute...
f R U R' U' f'
or **f cycle f'**

If your cross is completed, you can skip this step.
If you have neither case (no edges oriented), perform either algorithm.

Step 8: Orient the Top Corners

If the top of the cube looks like the cube above, position it as above.

Otherwise, turn the U face so that the sticker in the upper-right of the L face is yellow.

Perform the **sune**:
R U R' U R U2 R'

Repeat this entire step until the top layer is solved.

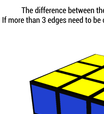
Step 9: Permute the Top Corners

Find a side in the top layer with two top corners of the same color.

Rotate the cube so that this side faces away from you.
If such a side does not exist, face any side away from you.
Perform the **corner-swap (A-perm)**:
R' F R' B2 R F' R' B2 R2 U'
If your corners do not match up on all sides, repeat the step again.

Step 10: Permute the Top Edges

Face the solved side that isn't yellow or white to the back.
Find the three edges that need to be cycled.
Determine whether they need to move clockwise or counter-clockwise.



If clockwise...
F2 U R' L F2 R L' U F2

If counter-clockwise...
F2 U' R' L F2 R L' U' F2

The difference between the algorithms is the U or U'.
If more than 3 edges need to be cycled, perform either algorithm.

Congratulations! You have solved the cube!

Check out tiny.cc/algs for just the algs in this guide.
Mastered this guide? Check out tiny.cc/solveitfaster to get faster!

Contact me at cubeguide@matthewmcmillan.me with any questions or comments!

Images generated using ICube by Josef Jelinek