

# RUBIK'S CUBE NOTATION

Hold the cube with white on top and green facing you. Coloured stickers show the layer that moves; the arrow shows which way.

|                                                                                                                       |                                                                                                                          |                                                                                                                       |                                                                                                                         |                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <br><b>R</b><br>Right face up        | <br><b>R'</b><br>Right face down        | <br><b>L</b><br>Left face down       | <br><b>L'</b><br>Left face up        | <br><b>U</b><br>Top row left             |
| <br><b>U'</b><br>Top row right       | <br><b>D</b><br>Bottom row right        | <br><b>D'</b><br>Bottom row left     | <br><b>F</b><br>Front clockwise      | <br><b>F'</b><br>Front counter-clockwise |
| <br><b>B</b><br>Back: right edge up | <br><b>B'</b><br>Back: right edge down | <br><b>U2</b><br>Top, half turn     | <br><b>M</b><br>Middle, like L      | <br><b>E</b><br>Equator, like D         |
| <br><b>S</b><br>Standing, like F   | <br><b>r</b><br>Right two layers      | <br><b>x</b><br>Whole cube, like R | <br><b>y</b><br>Whole cube, like U | <br><b>z</b><br>Whole cube, like F     |

## THE RULES

**Plain letter** = quarter turn clockwise, as if you were looking straight at that face.

**Apostrophe (R')** = counter-clockwise. Say it "R prime".

**2 (U2)** = half turn. Either direction.

**Lower case (r) or w (Rw)** = that face plus the middle layer.

## THE TRAPS

**Keep your grip.** Never turn the whole cube mid-algorithm unless it says x, y or z.

**B and D** are clockwise seen from behind and from below, so they look backwards from your seat.

**M follows L**, **E follows D**, **S follows F**.

## READ AN ALGORITHM

Left to right, one move at a time. **RUR'U'** = right up, top left, right down, top right.

Six times on a solved cube brings it back to solved. If not, one move went the wrong way.

## UNDO AN ALGORITHM

Reverse the order and flip every prime. 2s stay.

The inverse of **RUR'U'** is **URU'R'**.