

The Rubik's Cube is a 3-D combination puzzle originally invented in 1974 by Hungarian sculptor and professor of architecture Ernő Rubik. Originally called the Magic Cube.

Speedcubing (also known as speedsolving) is a competitive sport that involves solving a variety of combination puzzles, the most well-known of which is the $3 \times 3 \times 3$ puzzle, as quickly as possible. A person who competitively solves combination puzzles is called a speedcuber (when solved specifically focusing on speed), or a cuber. To solve most puzzles, the contestant has to perform a series of moves, called algorithms, that transform a scrambled puzzle into a solved state.

## World Cube Association (WCA)



The World Cube Association governs competitions for mechanical puzzles that are operated by twisting groups of pieces, commonly known as 'twisty puzzles'.

Serbian Open 2023 -> Dec 9-10, Bački Petrovac

## Feliks Zemdegs



## Max Park



Records -> Single 3x3 | Max Park 3.13s

## Gear



Timer


Lubricants


2x2



4x4

$5 \times 5$


6x6



Megaminx



## Square One



Clock

| Event | Type | Result | Person |
| :---: | :---: | :---: | :---: |
| $3 \times 3 \times 3$ | Single | 3.13 | - Max Park |
|  | Average | 4.48 | $\square$ Yiheng Wang |
| $2 \times 2 \times 2$ | Single | 0.47 | P Guanbo Wang |
|  | Average | 1.01 | [- Zayn Khanani |
| $4 \times 4 \times 4$ | Single | 16.79 | - Max Park |
|  | Average | 19.38 | [- Max Park |
| $5 \times 5 \times 5$ | Single | 32.88 | EMax Park |
|  | Average | 36.46 | E- Max Park |
| $6 \times 6 \times 6$ | Single | 59.74 | - Max Park |
|  | Average | 1:07.11 | - Max Park |
| $7 \times 7 \times 7$ | Single | 1:35.68 | - Max Park |
|  | Average | 1:42.12 | E.EMax Park |
| $3 \times 3 \times 3$ Blindfolded | Single | 12.10 | W\% Charlie Eggins |
|  | Average | 14.15 | - Tommy Cherry |
| $3 \times 3 \times 3$ Fewest Moves | Single | 16 | - Sebastiano Tronto |
|  | Average | 20.00 | $\underline{E}$ Wong Chong Wen |
| $3 \times 3 \times 3$ One-handed | Single | 6.20 | EMax Park |
|  | Average | 8.65 | - Patrick Ponce |
| Rubik's Clock | Single | 2.61 | - Tommy Cherry |
|  | Average | 3.50 | - Tommy Cherry |
| Megaminx | Single | 24.44 | - Leandro Martín López |
|  | Average | 26.84 | ELeandro Martin López |
| Pyraminx | Single | 0.75 | - Elijah Brown |
|  | Average | 1.45 | - Ezra Shere |
| Skewb | Single | 0.81 | [ Zayn Khanani |
|  | Average | 1.53 | ECarter Kucala |
| Square-1 | Single | 3.73 | - Ryan Pilat |
|  | Average | 4.91 | - Max Siauw |
| $4 \times 4 \times 4$ Blindfolded | Single | 51.96 | - Stanley Chapel |
|  | Average | 1:08.76 | [- Stanley Chapel |
| $5 \times 5 \times 5$ Blindfolded | Single | 2:10.04 | \# Stanley Chapel |
|  | Average | 2:27.63 | - Stanley Chapel |
| $3 \times 3 \times 3$ Multiple Blindfolded | Single | 62/65 | - Graham Siggins |


| Event Type | Result | Person | Event Name |  |
| :--- | :--- | :--- | :--- | :--- |
| Single $3 \times 3 \times 3$ | 3.13 | Max Park | Pride in Long Beach 2023 |  |
| Average $3 \times 3 \times 3$ |  | 4.48 | Yiheng Wang | Mofunland Cruise Open 2023 |
| $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ |
| $\mathbf{4 . 7 2}$ | $\mathbf{4 . 7 2}$ | 3.99 | $\mathbf{( 3 . 9 5 )}$ | $\mathbf{( 5 . 9 9 )}$ |
|  |  |  |  |  |

## Namings and Acronyms

BM = Beginner Method
Cross = Plus or X
F2L = First Two Layers
OLL = Orient Last Layer
PLL = Permute Last Layer
CFOP = Cross -> F2L-> OLL-> PLL

## Beginner method

## Video guides playlist

## Methods:

1. CFOP (Fridrich)
2. Roux
3. ZZ (Zbigniew Zborowski)
4. Corners-first
5. Fewest Moves
6. Blindfolded

## Move notation



Front Inverse

(Fi)


Left Inverse


Right (R)


Right Inverse


(Ui)

Down (D)


Down Inverse


Layer by layer


## Steps for progress

1. Beginner method

BM -> BM Faster -> F2L
2. Beginner CFOP

2-Look OLL -> 2-Look PLL -> Advanced F2L -> Dot skip
3. Full CFOP:

21 PLLs algoritms -> 57 OLLs algoritms
4. Advanced algoritms and variations

Winter Variation, OLL skips(OLS),...

## Other improvements

- Fingertricks
- Lookahead
- Pseudoslotting_(F2L)
- Cube customization -> Screws, Springs, Magnets, Lube
- Bluetooth cube


## Big cubes

## Video tutorial

## Methods:

1. Reduction
2. Yau
3. Hoya

## Reduce to $3 \times 3$



## Parity

OLL parity
PLL parity


## Other



## Mirror cube



Cube for blind


## Pupet cube



Gear cube


Ex mars cube -> electornic


Robot solvers

## Art



## Useful links

Speedcube.rs -> Subotica, delivery only
Gadget 4 Gift -> BG, NS , Nis, store and delivery
JPerm channel -> Youtube tutorials
Dan's Cubing Cheat Sheet App -> algoritms with animations

