CFOP Speedcubing Guide 2016 v1.0 by pr0ject1le

First 2 Layers

You must solve the cross first. It can be done in 6 moves or less ~82% of the time and ≤7 moves 99.95% of the time. These are just optimal example solves; F2L should be solved intuitively.

Easy Cases (1-4)

1. **U (R U' R')**
Use (R' F R F') if no U face edges are oriented properly on last slot

2. **y U' (L' U L)**
Use (F R' F' R) if no U face edges are oriented properly on last slot

3. **y (L' U' L)**
Note: this image is blue and red because a cube rotation is required

4. **(R U R')**
Note: this image is red and green because no cube rotation is required

Reposition Edge (5-8)

5. **(U' R U R') U2 (R U' R')**

6. **d (R' U' R) U2 (R' U R)**

7. **U' (R U2 R') U2 (R U' R')**

8. **d (R' U2 R) U2 (R' U R)**

Reposition Edge & Flip Corner (9-14)

9. **U' (R U' R' U) (F' U' F)**

10. **U' (R U R' U) (R U R')**

11. **U' (R U2 R') U (F' U' F)**

12. **(R U R' U) (R U' R') U2 (R U' R')**

13. **y' U (R' U R U') (R' U' R)**

14. **U' (R U' R' U) (R U R')**

Split Pair by Going Over (15-18)

15. **(R U R') U2 (R U' R' U) (R U' R')**

16. **(R U' R') U2 (F' U' F)**

17. **(R U2 R') U' (R U R')**

18. **y' (R' U2 R) U (R' U' R)**

Pair Made on Side (19-22)

19. **U (R U2 R') U (R U' R')**

20. **y' U' (R' U2 R U') (R' U R)**

21. **(R U' R') U2 (R U R')**
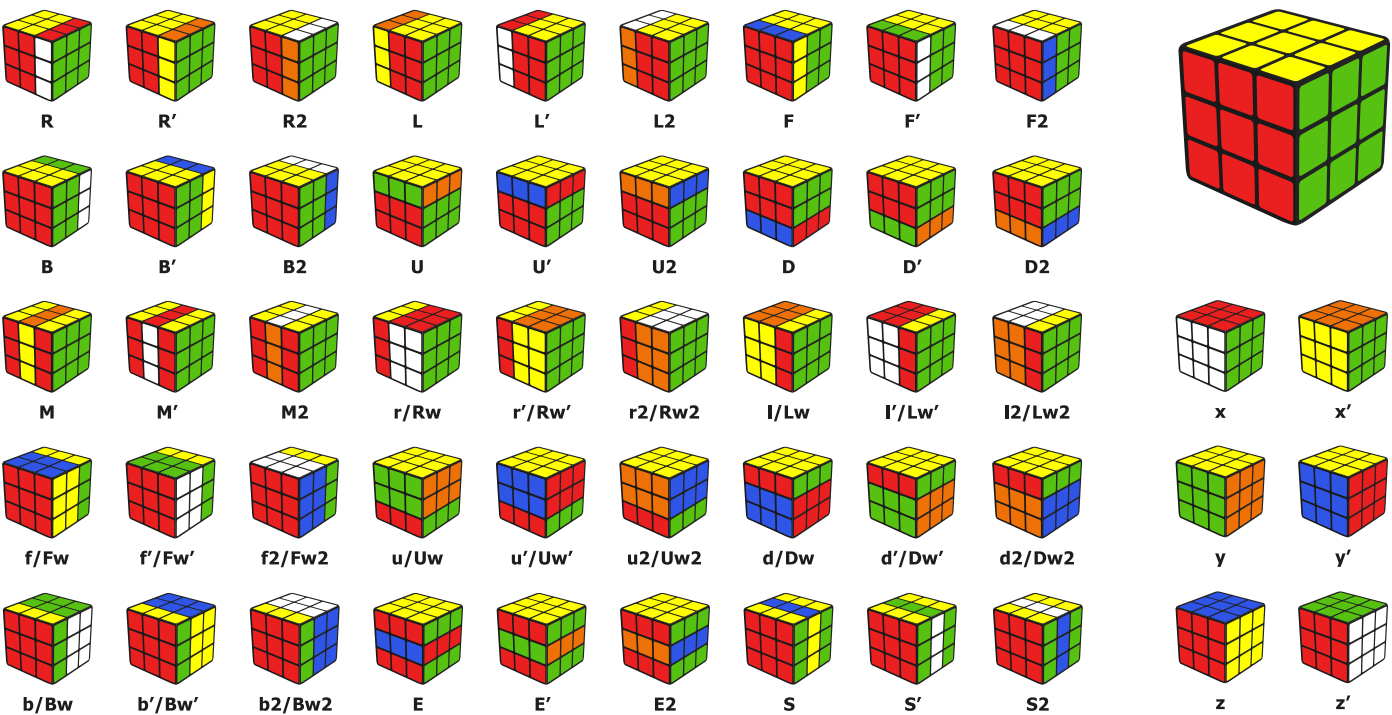
22. **F' (L' U2 L) F**

Weird (23-24)

23. **(R U R') U2 (R U R' U') (R U R')**

24. **F U (R U' R') F' (R U' R')**

Corner in Place - Edge in U Face (25-30)

25. **(R' U' R' U' R') (U R U R)**

26. **y' (R' U' R' U' R') (U R U R)**

27. **(R U' R' U) (R U' R')**

28. **y' (R' U R U') (R' U R)**

29. **y' (R' U' R U) (R' U' R)**

30. **(R U R' U') (R U R')**

Edge in Place - Corner in U Face (31-36)

31. **U' (R' F R F') (R U' R')**

32. **(R U R' U') (R U R' U') (R U R')**

33. **(U' R U' R') U2 (R U' R')**

34. **U (R U R') U2 (R U R')**

35. **(U' R U R') U (F' U' F)**

36. **U2 (R' F R F') U2 (R U R')**

Edge & Corner in Place (37-41)

0. **Solved Pair**

37. **R2 U2 F R2 F' U2 R' U R'**

38. **(R U R' U') (R U2 R' U') (R U R')**

39. **(R U R') U2 (R U' R' U) (R U R')**

40. **(R U' R') F (R U R' U') F' (R U' R')**

41. **(R U R' U') (R U' R') U2 y' (R U' R)**

R	R'	R2	L	L'	L2	F	F'	F2
B	B'	B2	U	U'	U2	D	D'	D2
M	M'	M2	r/Rw	r'/Rw'	r2/Rw2	l/Lw	l'/Lw'	l2/Lw2	x	x'
f/Fw	f'/Fw'	f2/Fw2	u/Uw	u'/Uw'	u2/Uw2	d/Dw	d'/Dw'	d2/Dw2	y	y'
b/Bw	b'/Bw'	b2/Bw2	E	E'	E2	S	S'	S2	z	z'

4-Look Last Layer

^ = more than one case number

2-Look OLL Orientation of Edges
Edge orientation (EOLL)

^	f (R U R' U') f'	44
^	F (R U R' U') F'	45
^	F (R U R' U') F' f (R U R' U') f'	31

2-Look OLL Orientation of Corners
Corner orientation (OCLL)

27	(R U R' U) R U2 R'	R U2 R' (U' R U' R')	26
22	R U2 (R2 U') (R2 U') R2 U2 R	F (R U R' U')*3 F'	21
24	(r U R' U') r' F R F'	F' (r U R' U') r' F R	25
23	(R2 D R') U2 (R D' R') U2 R'	Solved	
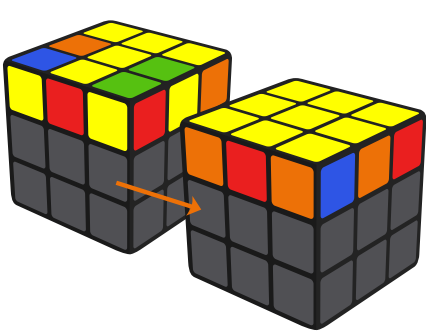
Orientation of Last Layer (OLL)
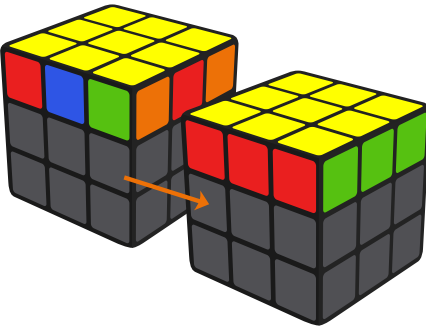
Permutation of Last Layer (PLL)

2-Look PLL Corner Permutation

Aa	x (R' U R') D2 (R U' R') D2 R2	x' (R U' R) D2 (R' U R) D2 R2	Ab
0	Solved	x' R U' R' D R U R' D' R U R' D R U' R' D' x	E

2-Look PLL Edge Permutation

Ub	R2 U (R U R' U')(R' U')(R' U R')	(R U')(R U)(R U)(R U') R' U' R2	Ua
H	M2 U M2 U2 M2 U M2	M2 U M2 U M' U2 M2 U2 M' U2	Z