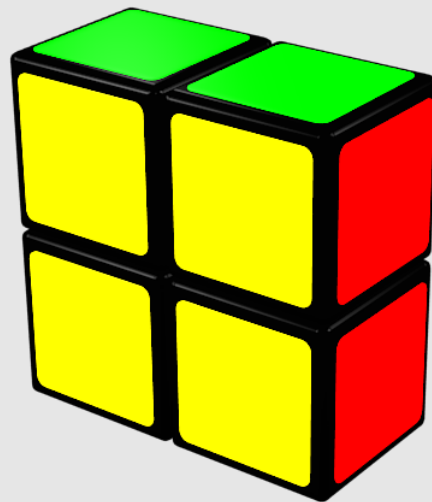# 2x2x1 cube

# 1 Notation

## 1.1 Faces

The faces are those surfaces made up of stickers (or simply, colours). This cuboid has 6 faces, two of which with 4 stickers each and four with 2 stickers each.
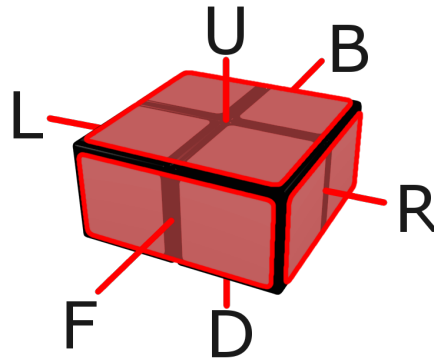


Figure 1: Faces.

You can define the name for each face. In Ibero Rubik we recommend that the F is a 4-sticker face and the method explained here is based on this choice.

## 1.2 Pieces

In this cuboid the only pieces that we find are corner pieces, but unlike other cuboids and cubes these corners have 4 stickers. That is why we will forget about centers and edges.
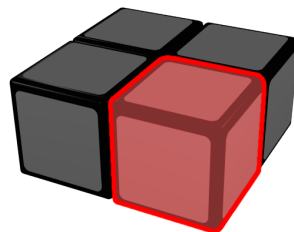


Figure 2: One of the four pieces marked in red.

## 1.3 Matrix notation

In this cuboid the matrix notation is very useful because its pieces are not common. We will name each piece with the arrow and the column, and write $(x, y)$ where $x$ inicates the arrow e $y$ indicates the column.
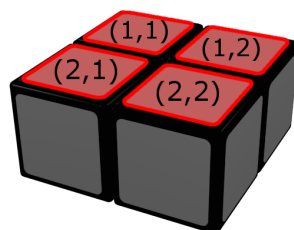


Figure 3: Matrix notation.

## 1.4 Turns

Turn arethe movements made with the pieces of the cuboid. We could do clockwise and counterclockwise turns. Since the cube is a 2x2x1, these movements are always 180°.

# 2 Solving the cube

This cuboid is very easy to solve. In case you haven't solved it yet, we will help you. This guide has three simple steps:

## 2.1 Choose a corner

As the title says, we must choose a corner to begin with. The piece we select will stay on the right, in the position (2,2). Afterwards we will place the rest.
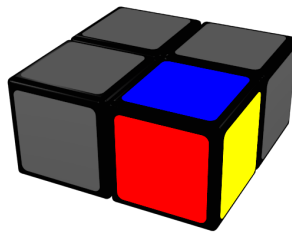


Figure 4: Reference piece in (2,2).

## 2.2 Join two corners

In this step we have to find the corner that will be on the left of the reference piece when the cube is solved. These two pieces have three colours in common. There are only three options:

- The piece is already in its place.
- The piece has its D colour placed in face F and its position is (1,1).
- The F colour is in the front face, but the piece is in (1,2).

### 2.2.1 First option

The piece is already in the right place and every colour matches. We do nothing and skip this step.



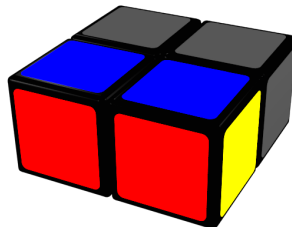Figure 5: The second piece is in the right place and the colours match.

### 2.2.2 Second option

The piece that should be in (2,1) is actually in (1,1). We do not need to do any algorithm, it is a simple movement. By turning the left face clockwise. This way we get the right position and orientation. After that, we go to step 3.
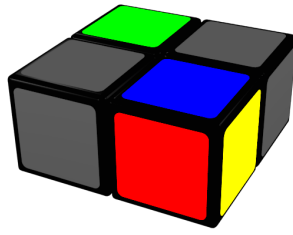
Figure 6: The piece we want to place is located in (1,1).

### 2.2.3 Third option

The piece that will be in (2,1) is located in (1,2). In this case we do **BL**. The piece will end up being located in the desired place. We move to step 3.
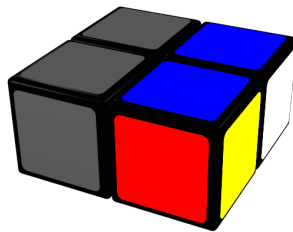


Figure 7: The piece we want to place is in (1,2).

# 3 Complete the cuboid

This is the last and easiest step. By paying attention at the colours of the puzzle we will see two couples of pieces.
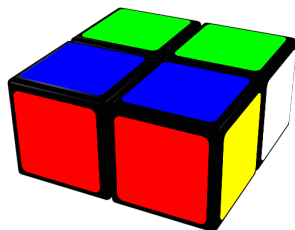


Figure 8: Two couples of pieces.

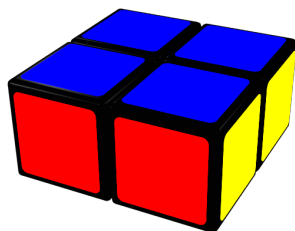We turn the B face to make the colours match. The cuboid is now solved.



Figure 9: Finished cube.

**This guide and much more at:**


# www.iberorubik.com