## $3 \times 3 x 1$ cube: Notation



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The $3 \times 3 \times 1$ is a cuboid, called Floppy Cube, and is based on a $3 \times 3 \times 3$ cube. The axis is fixed, so the centres (and therefore the faces) are defined. In this type of cuboids the moves are always 180 degrees.

## Faces

The faces are the surfaces with several stickers. Floppies have 6 faces, two of which have 9 stickers and the rest have three stickers each. In this guide the F face will be one three-stickers face and the algorithms are based on that.


Figure 1: English notation for the faces.

## Pieces

In the Floppy cube there are three types of pieces: Centres, Edges and Corners.


Unlike a $3 \times 3 \times 3$ cube, in this case there are only 2 centre pieces, with one sticker each. They are located in the 9-sticker faces, called $U$ and D.


They are different from the $3 \times 3 \times 3$ edge pieces, since in this case each edge has 3 stickers.


They are different from the $3 \times 3 \times 3$ corner pieces, since in this case each corner has 4 stickers.

## Matrix notation

In this cuboid matrix notation is very useful because the pieces are different. We have to name the pieces with their row and column. We will write $(x, y)$, where $x$ indicates rows and $y$ indicates columns.


## Turns

Turns are the moves the pieces make. In the $3 \times 3 \times 1$ the only possible turns are double ( 180 degrees). Since there are some Floppy models (the Super Floppy Cube) that can turn $90^{\circ}$ without blocking the cuboid, we will still write the letters with a number 2 (i.e., F2, R2, L2, etc.) to indicate the move.

This guide and much more at:

## www.iberorubik.com

