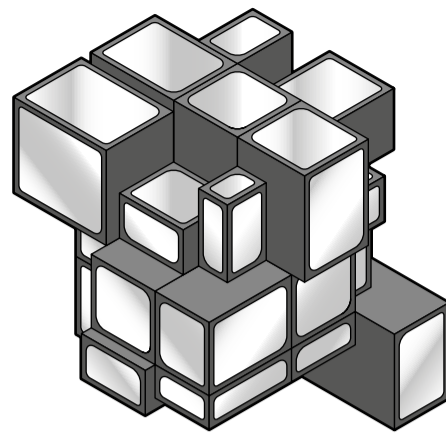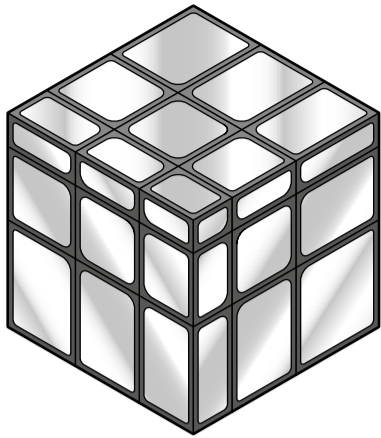# IQ-Cube "Mirror"

Dear Customer

This unique IQ cube is solved using the same algorithm as the well known Rubik's Cube with the 3 x 3 coloured surfaces. Nevertheless it is a real challenge, even for the most ambitious of puzzle-lovers!

The surfaces are the same colour but different sizes, which makes the cube look very messy when twisted and makes solving the puzzle challenging.
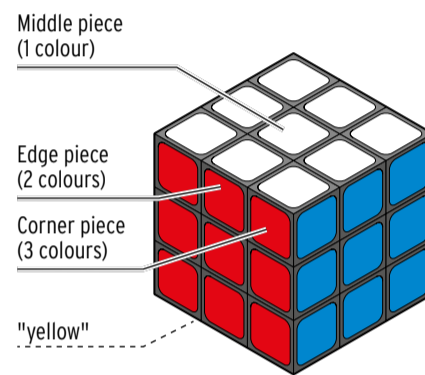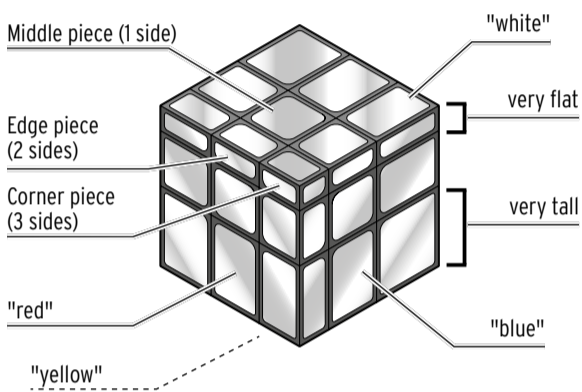
In this guide, we will explain the solution with the help of a coloured cube.
By following the guide carefully and using a fair amount of patience and concentration, you should be able to solve the cube in no time.
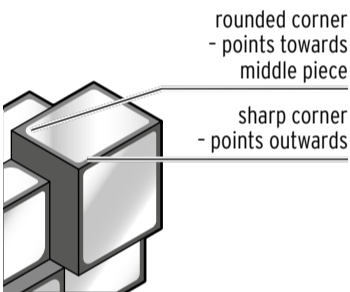
To start off, give the cube a good mix up until all pieces are well jumbled.

We hope you enjoy using this product. Best of luck!

Your Tchibo Team

Middle piece (1 side)
"white"
very flat
Edge piece (2 sides)
Corner piece (3 sides)
very tall
"red"
"blue"
"yellow"

Middle piece (1 colour)
Edge piece (2 colours)
Corner piece (3 colours)
"yellow"

How to solve the cube

rounded corner - points towards middle piece
sharp corner - points outwards

The IQ-cube comprises 6 surfaces, each made up of 9 pieces of different sizes. It can be helpful to pay attention to the corners on each piece: Rounded corners always point towards the middle piece in the final cube. The sharp corners are located on the edges.

One surface with pieces of a certain thickness corresponds to one coloured surface. Example: the flattest pieces at the top correspond to the white surface.

The solution for correctly arranging the IQ-cube can be broken down into a number of goal stages. Theses can be solved – depending on the current state of the cube – by using various algorithms.
In this context, an algorithm describes a specific sequence of turning movements carried out once or, in some cases, repeatedly, which always produce the correct result.

The surface is always determined by the centre piece - even when all other pieces are at different heights, the surface around the "flattest" middle piece is always considered the "flattest" surface.
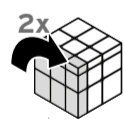
Of course, to begin with, the cube needs to be thoroughly mixed up before you can start attempting to solve it.
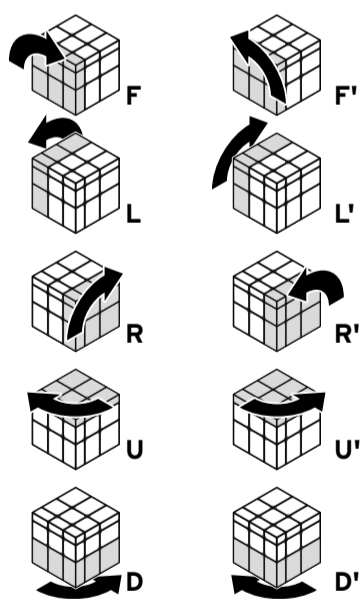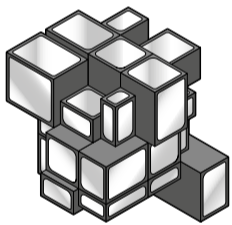
Turning movements and algorithms

F
F'
L
L'
R
R'
U
U'
D
D'

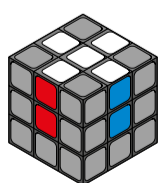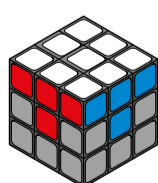| turn clockwise		turn anti-clockwise	
F	= front	**F'**	= front
L	= left	**L'**	= left
R	= right	**R'**	= right
U	= up	**U'**	= up
D	= down	**D'**	= down
2F	= 2x front	**2F'**	= 2x front

Solving the cube in 7 stages

Goal stages – starting from the flattest ("white") surface on the top of the cube
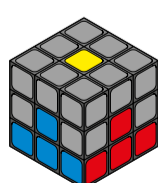As of stage 4, the cube is then solved with the "white" surface facing downwards
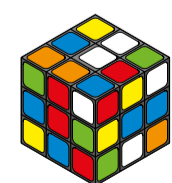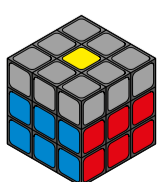
cube unsolved
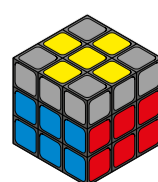
1) level 1: solve edges (white cross)
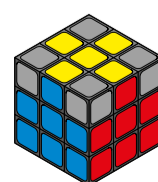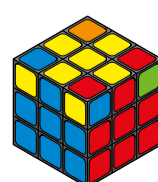
2) level 1: solve corners

turn cube
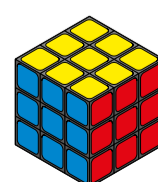
3) level 2: solve edges
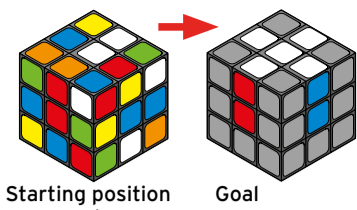
4) level 3: align edges (yellow cross)

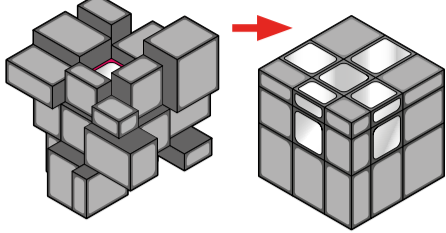**5)** level 3: arrange edges

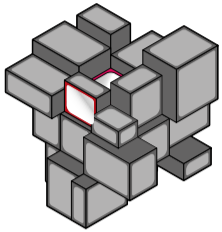**6)** level 3: arrange corners

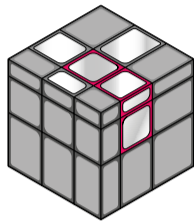**7)** level 3: solve corners

Starting position   **Goal**

ℹ The surfaces which have not been arranged are greyed out, but in position in the image to give you an overview.

U' - R' - U - F'

Possible algorithms

1) Level 1 - solve edges (the "white" cross)

The flattest pieces are the easiest to identify.
Therefore, it is best to look for the flattest middle piece first (see image).
This corresponds to the white middle piece on the Rubik's Cube.

In this first step, bring the 4 edge pieces into position around the "white" centre piece.

Hold the cube so that the "white" centre piece faces upwards.

Find the position of the 4 "white" edge pieces, i.e. the flattest edge pieces
This isn't easy!

There are no specific algorithms for this step as there are too many possible configurations for the pieces you need.

This step must be solved using trial and error:

To move an edge, it must always be rotated around one of the two adjacent centre pieces.
Look closely at the position of the edge you wish to move and try to imagine the path that this edge piece needs to take in order to reach the correct position next to the white centre piece.

The edge piece is in the right position when it is flush with the bordering middle pieces.

In the example, one of the edge pieces is above the wrong middle piece and is twisted. To align it correctly in its position, carry out the following algorithm as often as is needed until the "white" surface lies flat against the "white" middle piece.

U' - R' - U - F'

Then turn the upper most level until the second side of the edge piece lies flat against its middle piece.
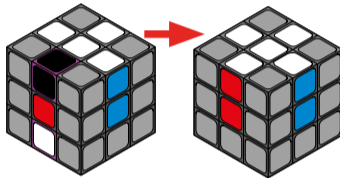
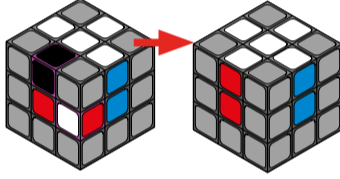▷ Look for all 4 edge pieces in this way and turn them into the right position.

①
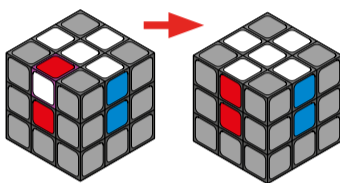
U' - R' - U - F'
repeat until the piece is in the correct position

②

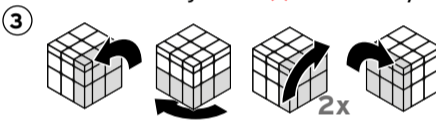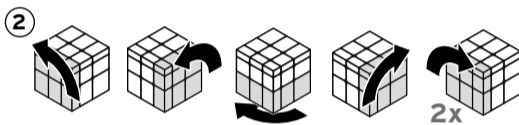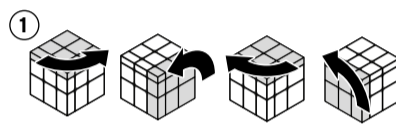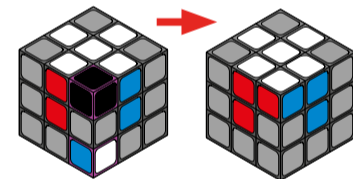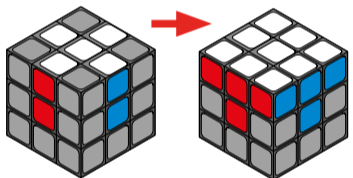**F' - R' - D' - R - 2F**
then use algorithm **(1)** if necessary

③

R' - D' - R - 2F
then use algorithm **(1)** if necessary

2) Level 1 - solve corners

Next, bring the corner pieces to the upper level. Use the same algorithm for every corner - if necessary, keep repeating until the corner stone is in position.

1. Hold the cube in such a way that the corners you need to solve point towards you (at the top between front and right - here marked black).
2. Find the right corner piece and turn it into position under the corner you need to solve.
3. Use this algorithm, and repeat if necessary.
4. Do the same to solve all of the other corners.

④
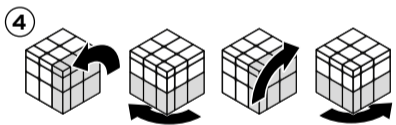
R' - D' - R - D

... repeat until the piece is in the correct position ...

3) Level 2 - solve edges

From here **turn the cube upside down**: the "white" side is facing down, the "yellow" side up. For the IQ cube that means that the side with the tallest pieces is at the top.

Next, bring the edge pieces to the middle level. For every edge piece, use one of three possible algorithms.

1. Hold the cube in such a way that the side you need to solve point towards you.
2. Find one of the suitable edge pieces and - if possible - turn it into position at the top above the corresponding centre piece.
3. Use this algorithm, and repeat if necessary.
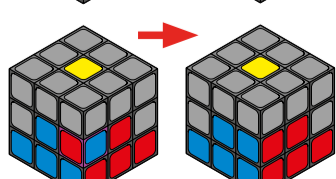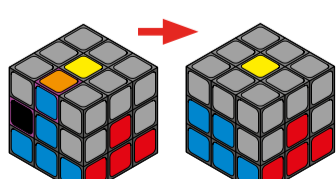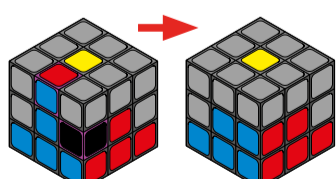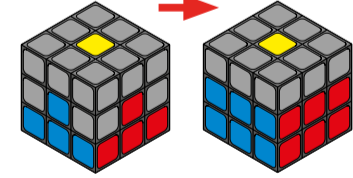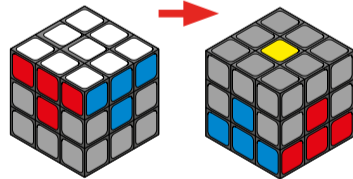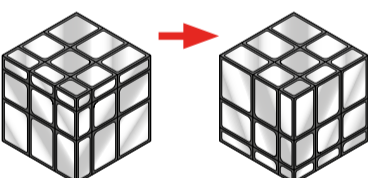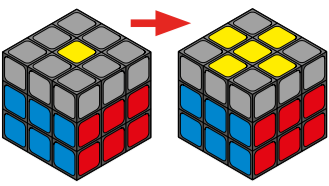4. Do the same to solve all of the other corners.

⑤

U - R - U' - R' - U' - F' - U - F

⑥
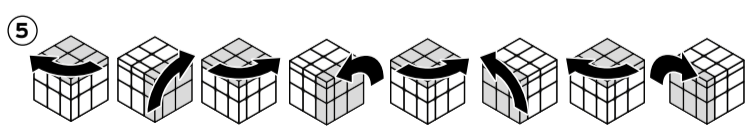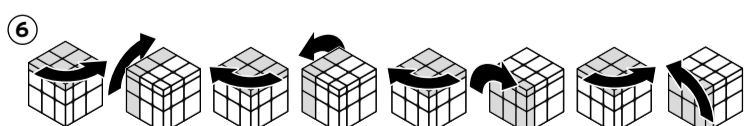
**U' - L' - U - L - U - F - U' - F'**

Algorithm ⑤ + 2U + Algorithm ⑤

4) Level 3 – align edges (the "yellow" cross)

In the fourth step, bring the 4 edge pieces into position around the top "yellow" centre piece. First, turn it only so that it is correctly aligned ("yellow facing up") - the correct position above the side centre pieces will follow later.

There are three possible cases, which can all be solved using the same algorithms:
the only thing that differs is how often you need to do it. Align the cube each time as illustrated!

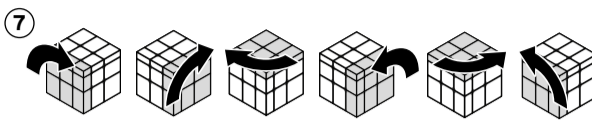(If the cross happens to appear by chance, you can of course skip this step.)
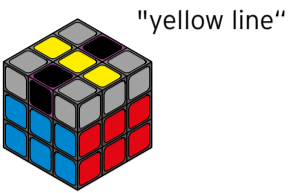
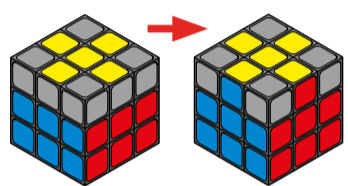"yellow line"
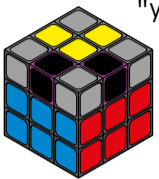
"yellow corner"

"yellow dot"

⑦
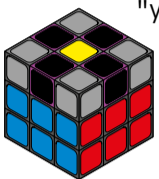
1x F - R - U - R' - U' - F'
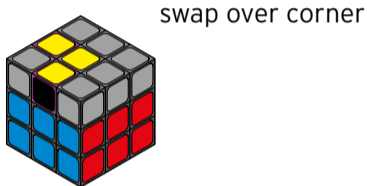
2x F - R - U - R' - U' - F'

3x F - R - U - R' - U' - F'

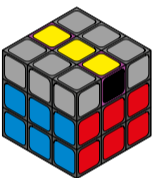... repeat once more if necessary...

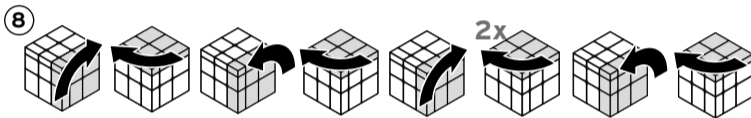## 5) Level 3 – arrange edges

Here there are two possible ways of moving the edge pieces into the correct position above the side centre pieces.
In the bottom case, the same algorithm as above must be carried out once, then the cube brought into position as for the swapping over corners, and then the algorithm repeated.
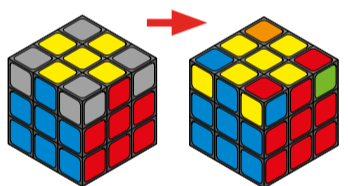
swap over corner

swap opposite edge pieces
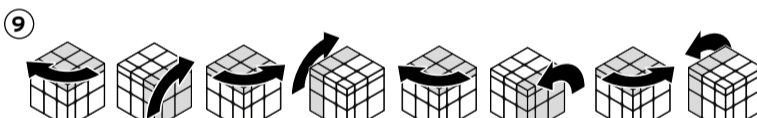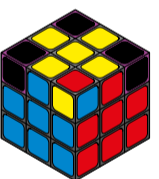
⑧

1x R - U - R' - U - R - 2U - R' - U

2x R - U - R' - U - R - 2U - R' - U

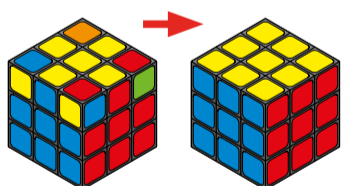... in between hold the cube as illustrated above...

6) Level 3 – arrange corners

In the sixth step, bring the corner pieces into position, the alignment is not important at this stage.

Align the cube with one correct corner facing to the front right and keep it in this position for all phases of the algorithm.

⑨

U - R - U' - L' - U - R' - U' - L

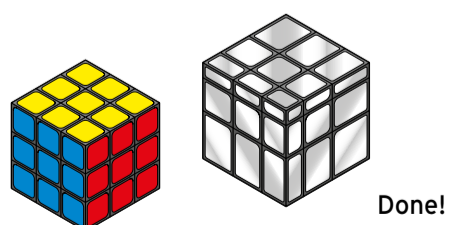... repeat until all corner pieces are in position...

7) Level 3 – solve corners

Finally, the corner pieces are aligned correctly.

Align the cube with the corner which needs to be solved to the front right. When you have solved the corner, **turn just the top side (U')** so that the next corner which needs to be solved is located to the front right. **The rest of the cube must be stay like this** - in between everything will look messy and jumbled but will come together at the end!

⑩
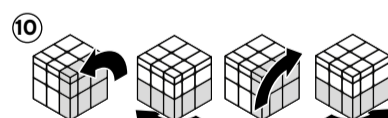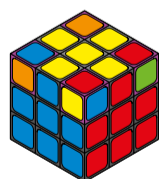
R' - D' - R - D

... repeat until the corner is solved,
then **U'** and repeat with the next corner...

Done!

Product number: 606 180

CE