



Chessboard



Radical Maker

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Summary

With its compact format and easy assembly, take your chess board wherever you want.

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Tags: [chess](#) [chessboard](#)

This chess board will allow you to transport it wherever you want with its compact and easy-to-assemble format, in addition to storing the pieces inside the board that turns into a suitcase when you check it.

Feel free to replicate, modify and even sell Chessboard.

Materials needed:

- 1kg PLA - Required
- 76 units of 5x2mm magnets - Required
- 8 units of 20x10x2mm magnets - Required
- Instant glue - Required
- EVA Foam - Not required
- Chamois Paper - Not required
- Double sided tape - Not required
- Paper glue - Not required

*** This complete board uses less than 1kg of filament, but you will need at least 2 different colors, so the total filament consumption is even lower for each color.**

This board has a few variations and you can use the one you like best.

- With magnets on the pieces
- No magnets on the parts
- Printing with MMU
- simple printing

To make the board more fun, I recommend assembling it with magnets on the pieces so that they stick to the board.

The version without magnets has the advantage of being cheaper and taking less time to assemble.

You can print a set of 4x4 houses using the MMU, which has the advantage of making your work much easier and saving you time.

If your printer doesn't have the MMU, don't worry. Mine doesn't have the MMU either. I added an STL of the houses in a single unit, so you can print them separately and glue them one by one. This is more work and takes more time.

Print Settings:

Maleta / Casas:

Nozzle : 0.4

Layer height: 0.3mm

Perimeter: 3

Horizontal walls (base/top): 5

Infill: 25% (grid)

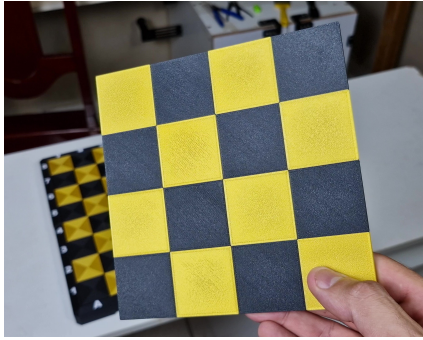
Peças:

Layer height: 0.2mm

Perimeter: 5

Horizontal walls (base/top): 5

Infill: 25% (grid)



If you have a multicolor printer, your work will be much easier, as you can print this 4x4 house model at once, printing four of these models to assemble your complete board.

***Before starting assembly, print the “calibrator” as these pieces have slots for magnets, and with the “calibrator” you will know if the magnets will fit perfectly on the pieces, if they do not**

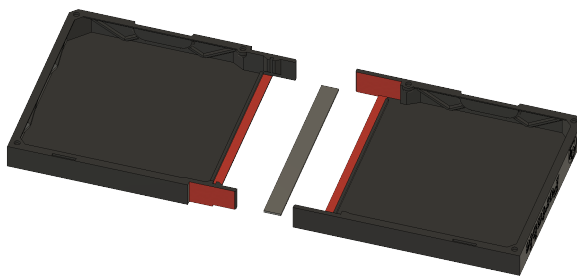
fit, adjust the thickness on the calibrator and replicate this same adjustment for the board files.

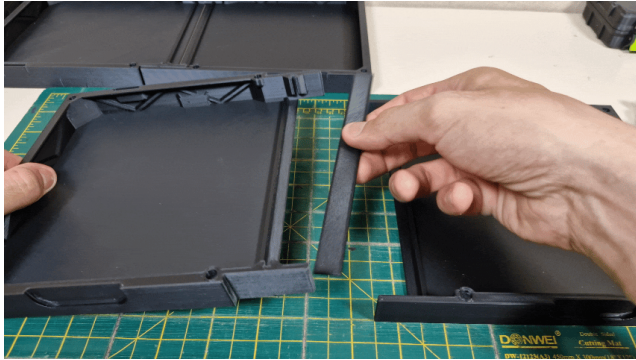
Assembly manual:



This is the order in which the board is assembled.

Between “Body 1” and “Body 2” fit ends “Plate - A” Apply glue to the red areas.





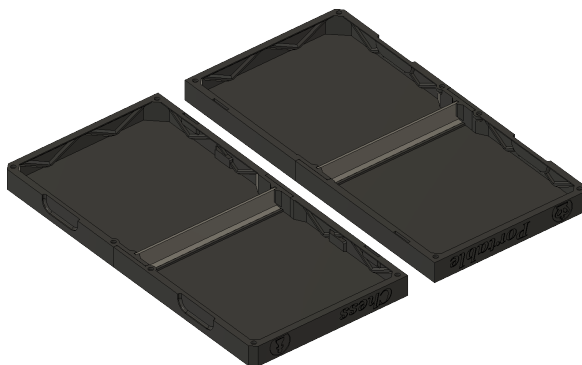
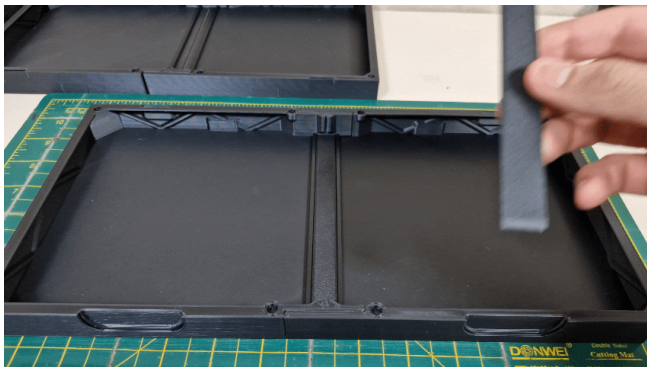
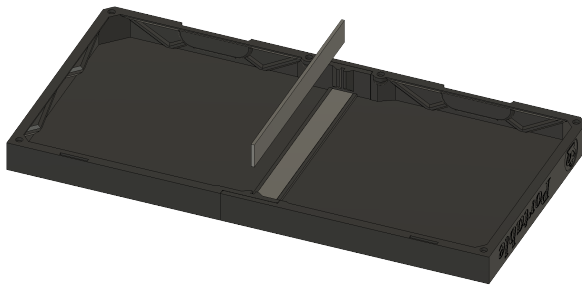
Example of assembly.

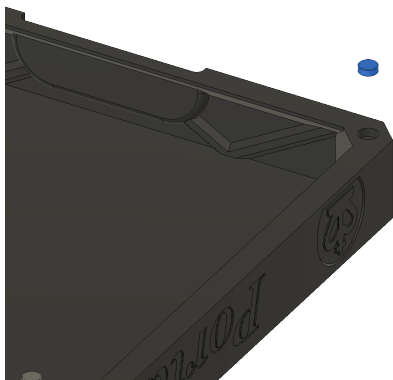
Insert this tab "Plate - B" into the correct slot, remember to apply glue to the slot.

Example of assembly.

Repeat this process. There are two sets that will form a case to store the chess pieces.

These two sets will not be glued together.

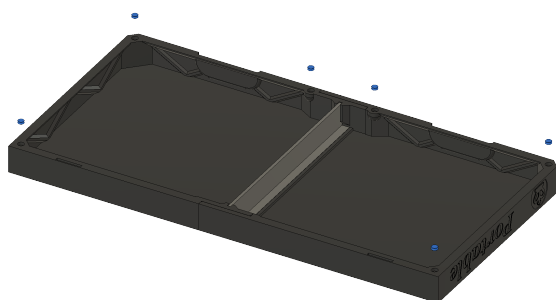




Fit the 5x2 magnets as shown in the image.

Important detail: make sure the magnets are in the same position and in the correct position, you will understand in the other figures.

Apply glue so that they do not come loose.

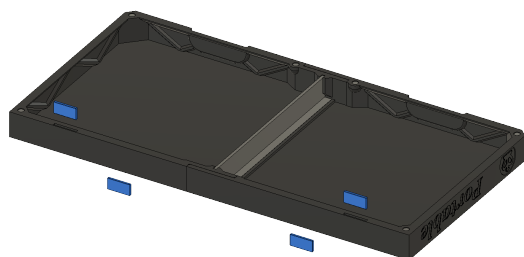


There are 6 5x2 magnets in each part of the case, fit them as shown in the figure.

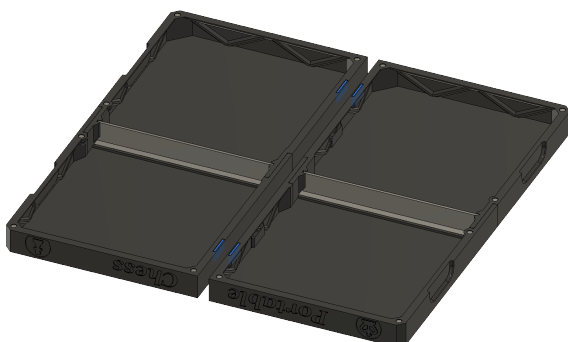
In addition to the 5x2 magnets, you should also add the 20x10x2 magnets in the indicated slots.

There will be 4 units in each part of the case.

Apply glue.



Be careful when inserting the magnets so that they are in the correct position to attract each other, see the example in the figure to the side.

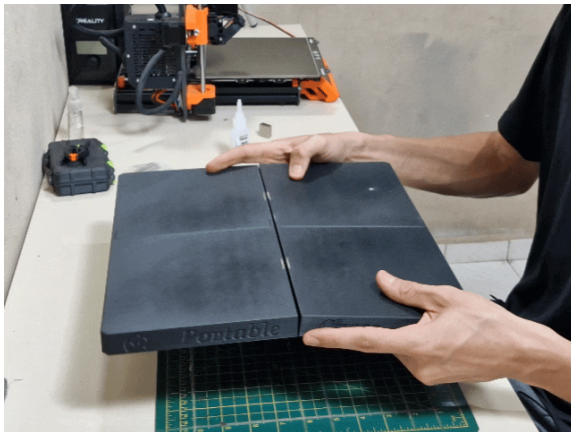




If you assembled it correctly, it should behave like this.

Tip: before applying glue, fit the magnets in their proper places and test the magnets' attraction to make sure you assembled them correctly. After you have verified this, apply the glue.

Check if the case is closing and if the magnets are holding it closed.



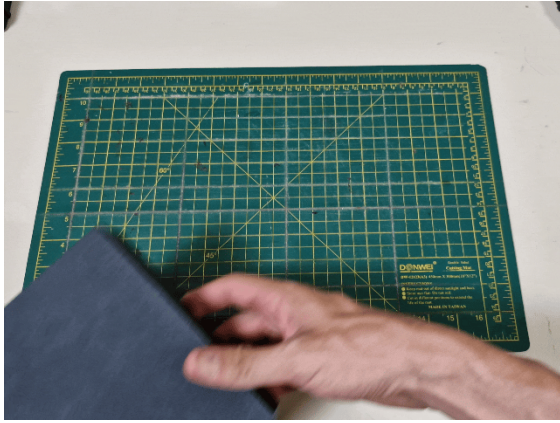
These are the squares that will make up the board. There will be 64 units in total, 32 light squares and 32 dark squares that can be the color of your choice.

Behind these pieces there is a slot for 5x2 magnets, which will be responsible for sticking the pieces to the board. Without the magnets, the pieces will not stick to the board, but it is up to you whether you will use them or not.



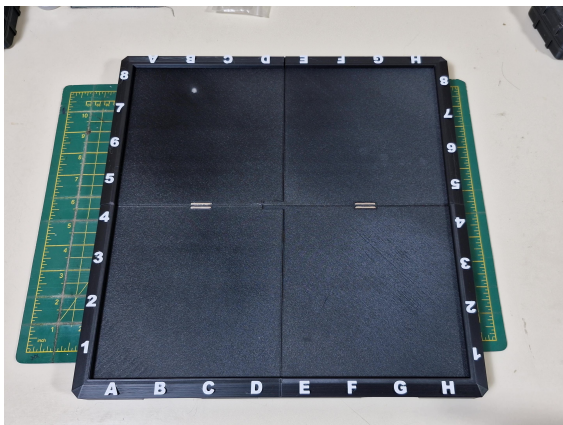
remembering if you are going to use magnets, be careful to stick them all in the same position.





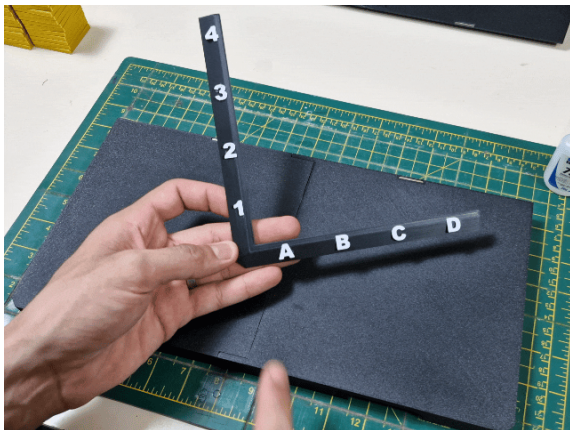
The next step is to assemble what I call coordinates, they have a specific and standard order on all chessboards, so pay attention to their positioning, the Gif on the side and the image below can help you find the correct order.

Use this image as a reference to position the coordinates correctly.



Now that you have identified the correct positions of the coordinates, let's glue them to the board, starting with the one with the corner "A-1".

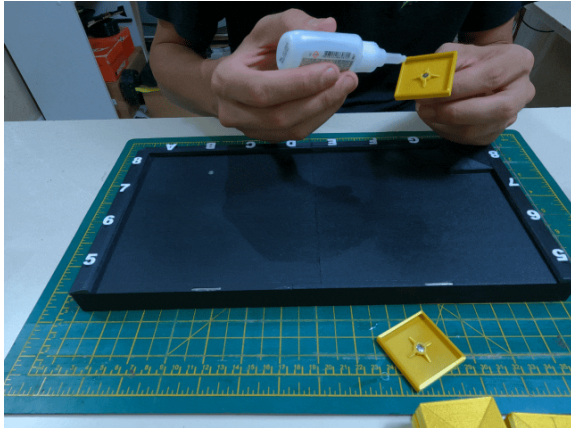
Apply instant glue to the back and position it in the correct place, taking care to ensure that it is well aligned with the edges. This step is very important because your board may end up crooked or the last pieces may not fit.



The first square in the corner "A-1" needs to be a dark square, then you can continue the chess game by placing a different color from the other, being careful not to glue two squares of the same color together.

Below you will find an image for you to base yourself on the order of the squares' colors.

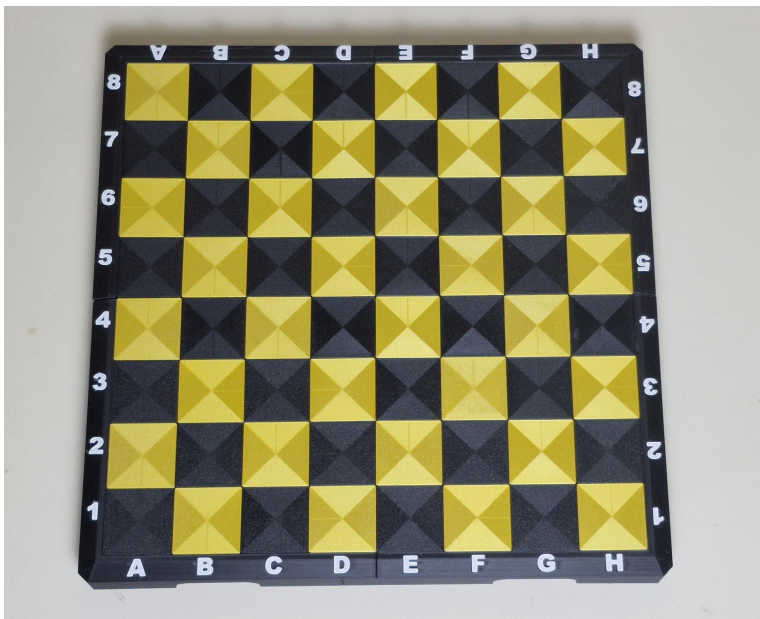




Here is a time-lapse of how I glued all the houses together.

Use this image to guide you in the order of the house colors.

Even if you are not using the same colors as in the photo, the important thing is to respect the place of the dark and light houses.



Now we just need to place the magnets on each of the pieces, be careful that the side of the magnet is the side that creates attraction with the board, otherwise it can cause the pieces to be repelled.





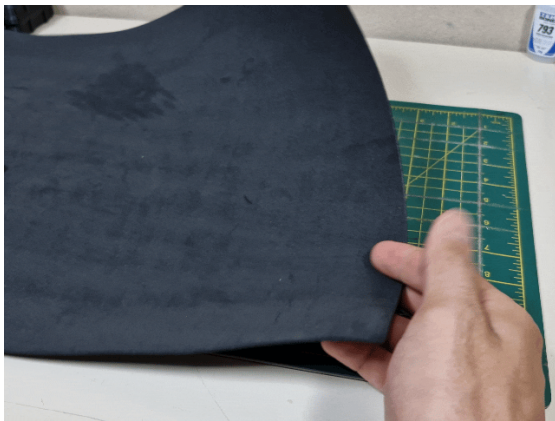
different name.

To cover the magnet and to prevent the piece from slipping, I cut and glued some suede paper underneath the pieces, which also gives a very nice finish.

I used regular paper glue.

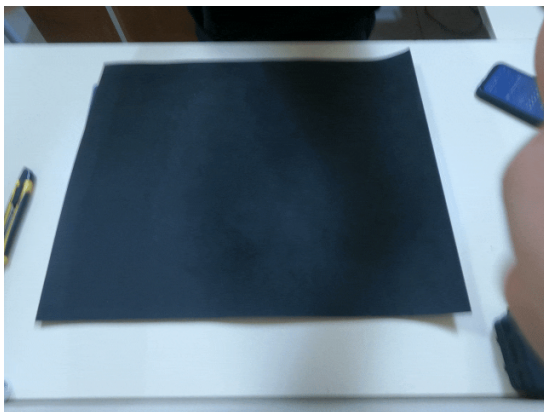
You can find this paper in school supply stores.

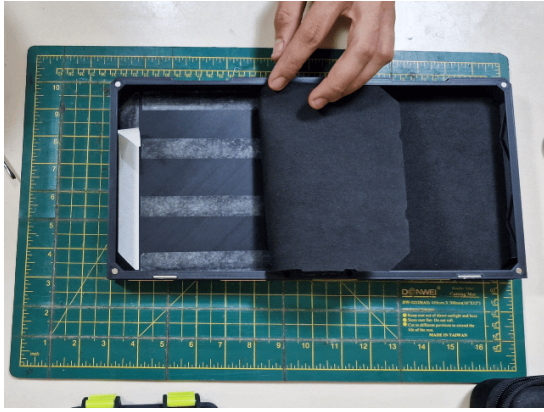
In my area it is called suede paper, but in your area it may have a



To finish the inside of the case I will use this EVA, which in addition to the finish will also help protect the pieces inside the case.

Using a template, I will cut it to the exact shape to fit inside the case.





And to stick the EVA, use thin double-sided tape, which you can easily find in school supply stores.

Model files



Coordenadas

4 files



borda-1-h.stl



borda-8-h.stl



borda-8-a.stl



borda-1-a.stl



Peças

7 files



rainha.stl



rei.stl



cruz.stl



bispo.stl



cavalo.stl



piao.stl

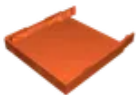


torre.stl

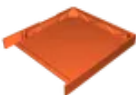


Maleta

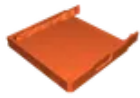
6 files



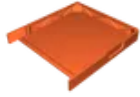
corpo-1.stl



corpo-2.stl



corpo-3.stl



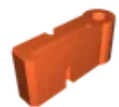
corpo-4.stl



plate-a.stl



plate-b.stl



calibrador.stl



casa.stl



casas-4x4.stl

☐ Printing using the MMU



molde.stl

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