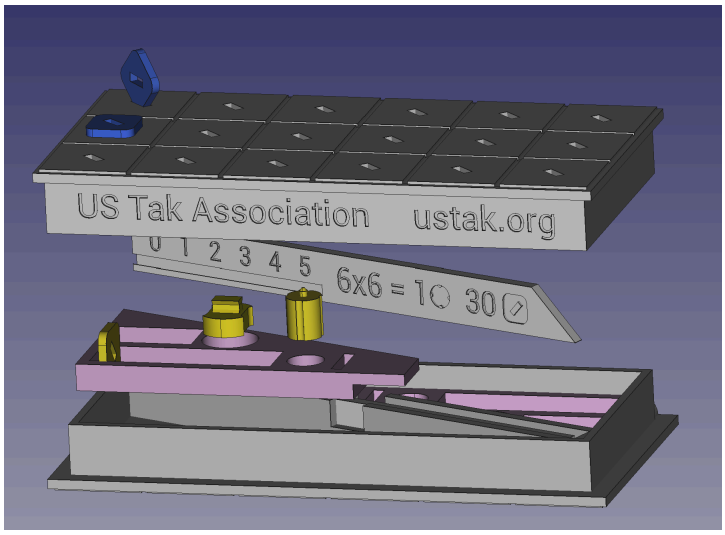
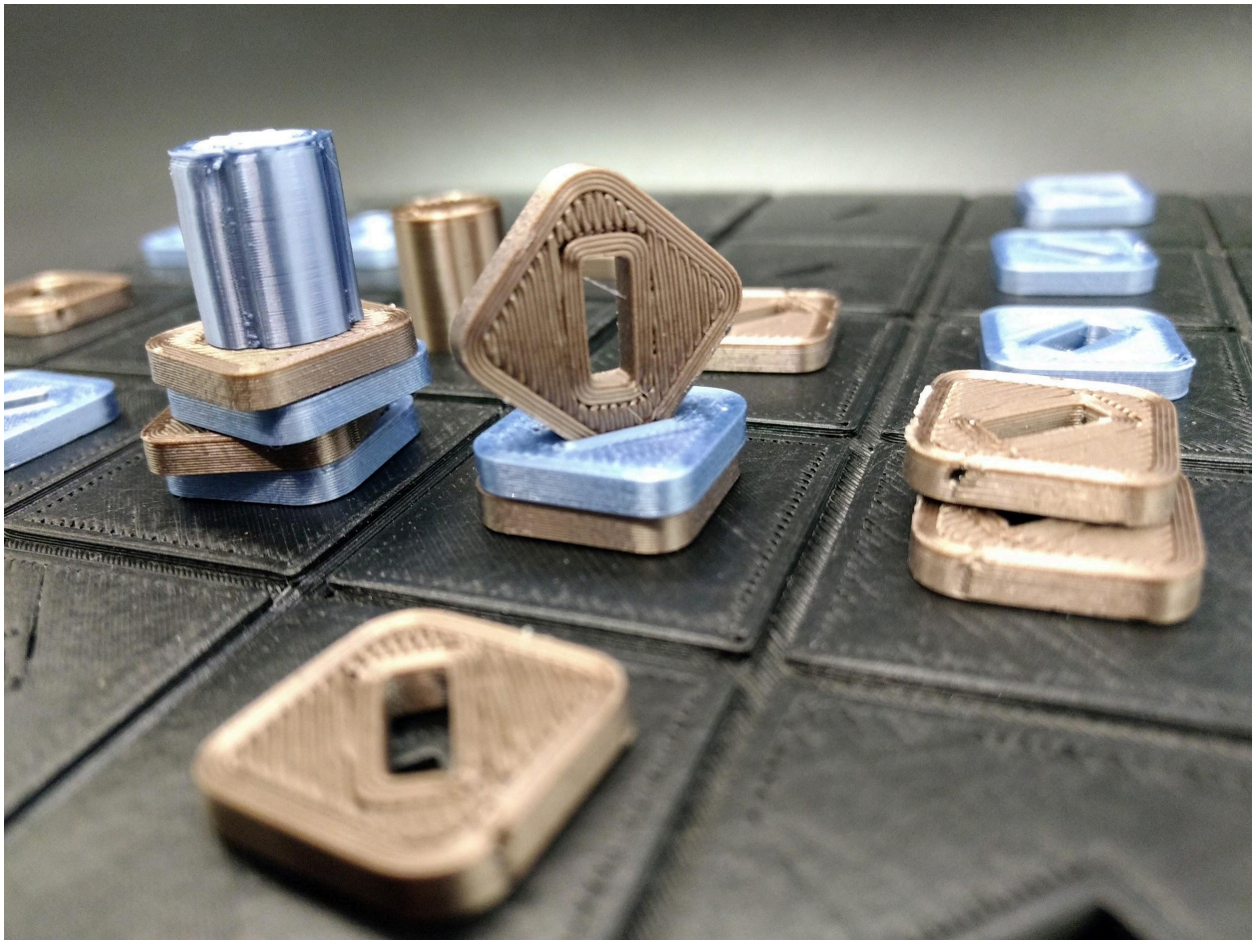
USTA Bento Box Tak Set
by Bill Leighton



1 2 3 4 5
6x6 = 1
30
5x5 = 1
21
5 4 3

0 1 2 3 4 5
5x5 = 1
21
0 1 2 3 4 5
6x6 = 1
30



[Unboxing of this set by Simmon and Fela]

Designed in FreeCAD .19
Sliced in Cura 4.13.0
Printed with Snapmaker 2.0 A350

Base set components:

Board Bottom (color 1)
Board Top (color 1)
Flat Stone x60 (color 1 (or x30 in color 2 and x30 in color 3))
Capstone x2 (color 1(or x1 in color 2 and x1 in color 3))

These next 3 could be considered upgrades if you only want a 6x6 set and keep score another way:
Horizontal Blocker
Vertical Blocker
Slider

If using a single color filament, you would need 2 colors of spray paint to use on the opposing sides' pieces.

Links to Materials Used Appears at the End of this Doc

Upgrades:
Board Bottom (magnetic) - print instead of Board Bottom
Board Top (magnetic) - print instead of Board Top
Blockers (to change from 6x6 to 5x5)
Slider (to keep track of score (slots into the blocker)
Inserts (go in bottom board to organize pieces)

Other upgrade materials:
Nail polish or paint
Clear gloss spray (I used satin)
Plasti Grip or Flex Seal - clear, rubberized spray

Instructions and tips for printing basic set:

You can use whatever quality settings that you like. I used PLA with a 205°C nozzle and 65°C hot bed and "fast" slicer settings (.24mm layer height, 50mm/s print speed) for all but the cap and slider which I increased to "normal" (.12mm layer height, 30mm/s print speed). I tried hot end ironing on the blockers and flats and was not thrilled with the results, so I reprinted without last layer finishing, but feel free to experiment!

Print 2 flats first to calibrate your print. After printing, slot one into the other to check for fit. Proper fit is snug, but not tight. You want a wall to remain standing when you move a stack, but not be annoying to remove if you move the wall off the stack or crush it. Adjust settings and reprint until you are satisfied with the fit. Keep these settings for the rest of the prints.

Print 60 flats. Either 30 of each color or 60 that you will then spray paint. Depending on how familiar you are with printing small parts on your printer, you may want to batch these so a failure doesn't ruin all attempted pieces. I personally batched mine in sets of 10.

Print board halves: Slice them upside down and then you should not need supports anywhere except the outside edge of the board. I used support blocker on Cura to remove supports from all other areas.

Print cap: Slice upside down to remove need for supports.

If you used a single color of PLA, you can now spray paint your pieces to differentiate the 2 sides.

Enjoy your set!

Instructions for upgrades:

Magnets used were 5mm diameter x 5mm height. I used super glue to attach them.

Blockers were finished in the sample set by mixing acetone and nail polish and syringing into recesses. Then, I wet sanded with 320 to 1000 grit. And, finally, coated with satin clear coat spray. Depending on the look you want, sanding is probably unnecessary, or you can at least jump from 220 to 400 to 600 and call it a day.

If desired, the “US Tak Association” and “ustak.org” can be finished in the same manner to highlight the text on the side.

In a fit of experimentation, I sprayed the top of the board and both sides of the flats with Flex Seal to reduce slippage. I think it worked rather well. Jostling or tipping the board now results in much less disruption.

Amazon Affiliate Links:
Plasti Dip - https://amzn.to/3xZHrG3
Filaments used:
- Gold - https://amzn.to/3y3Hv7H
- Blue - https://amzn.to/3QoYsQf
- Black - https://amzn.to/4dk5K1t

Magnets - https://amzn.to/3UnSO22
Syringes - https://amzn.to/4dmMAIa