

Tabletop Skittles

H Hex2000

[VIEW IN BROWSER](#)

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Summary

A game that originated around the 1700's, has stood the test of time. Now brought into the 21st Century in bright colours



8.59 hrs



7 pcs



0.30 mm
0.20 mm
0.15 mm



0.40 mm



PLA
Flex



202 g



Prusa
MK3/S/S+

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Tags: [table](#) [top](#) [multiple](#) [bowling](#) [pins](#) [players](#) [down](#)
[knock](#) [skittles](#)

Before I built the game I was not sure whether the skittles would have enough weight. However, printing the skittles at 80% infill, putting a 10mm diameter mild steel disc on the bottom of the skittles and having a 4mm diameter magnets embedded into the base, with a 0.16kg pull makes the game ideal. The magnets are a great asset also to hold skittles in place when younger members of the family are moving the base around.

Likewise with the spinning ball. The weight is increased by hiding 2x 10mm steel ball bearings inside

I have created underneath the base positional rectangles for rubber feet, I have used flexible filament to provide some friction on the table. But any form of feet you desire can be used.

210mm of fine stainless steel chain and an 'inline Skating Bearing' - 608 ZZ Ball Bearing (8mm x 22mm x 7mm) are the only other items required to complete the print.

Printing Information

Base: PLA, 0.3mm layers, 15-20% infill

Skittles: 9x PLA, 0.3mm layers 80% infill,

Long upright Post: PLA 0.3mm layer, 15-20% infill

Inline Bearing Pin: PLA, 0.3mm layer, 15-20% infill

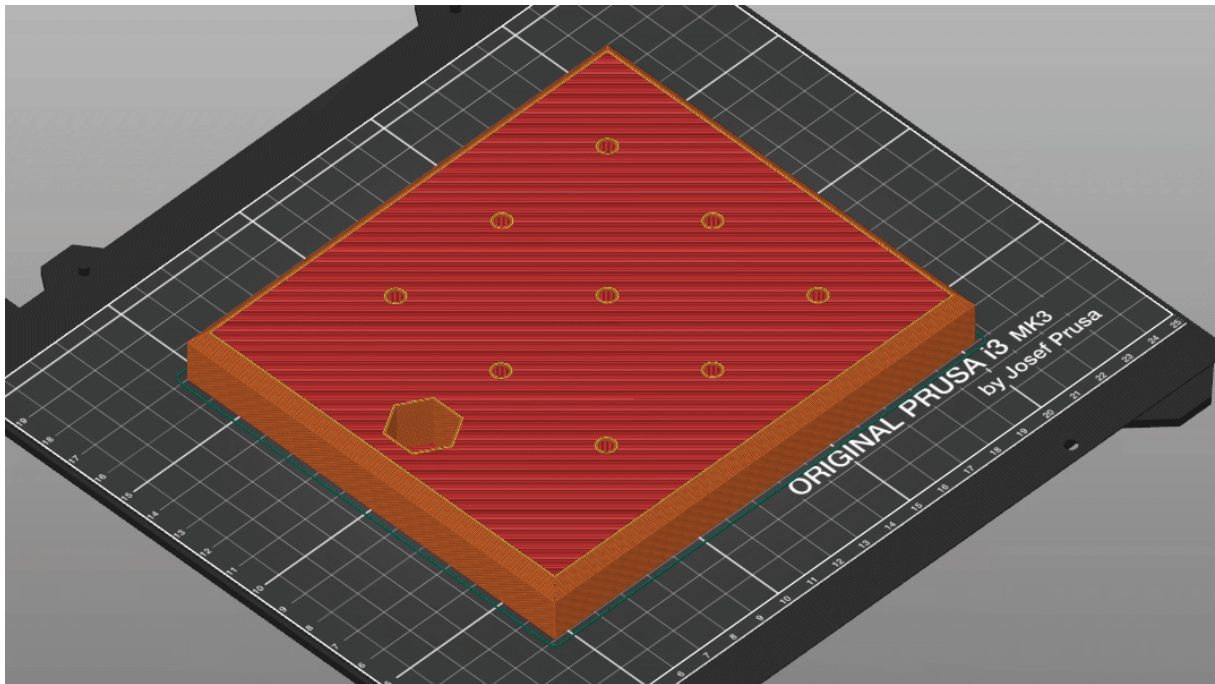
Inline Bearing Cap: PLA, 0.2mm layer, 15-20% infill

2x Ball Bearing Cover: PLA, 0.15mm layer 15-20% infill

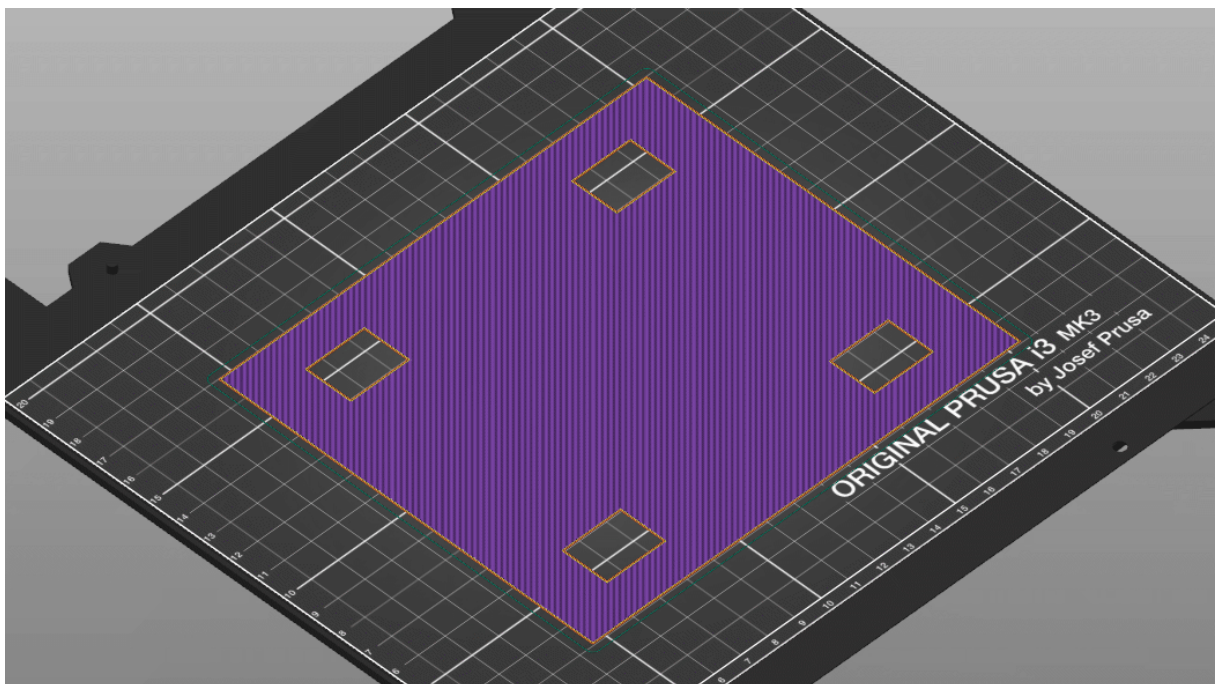
Rubber feet (optional): Fillamentum Flexfill 98A, 0.2mm layer.

Printing Images attached.

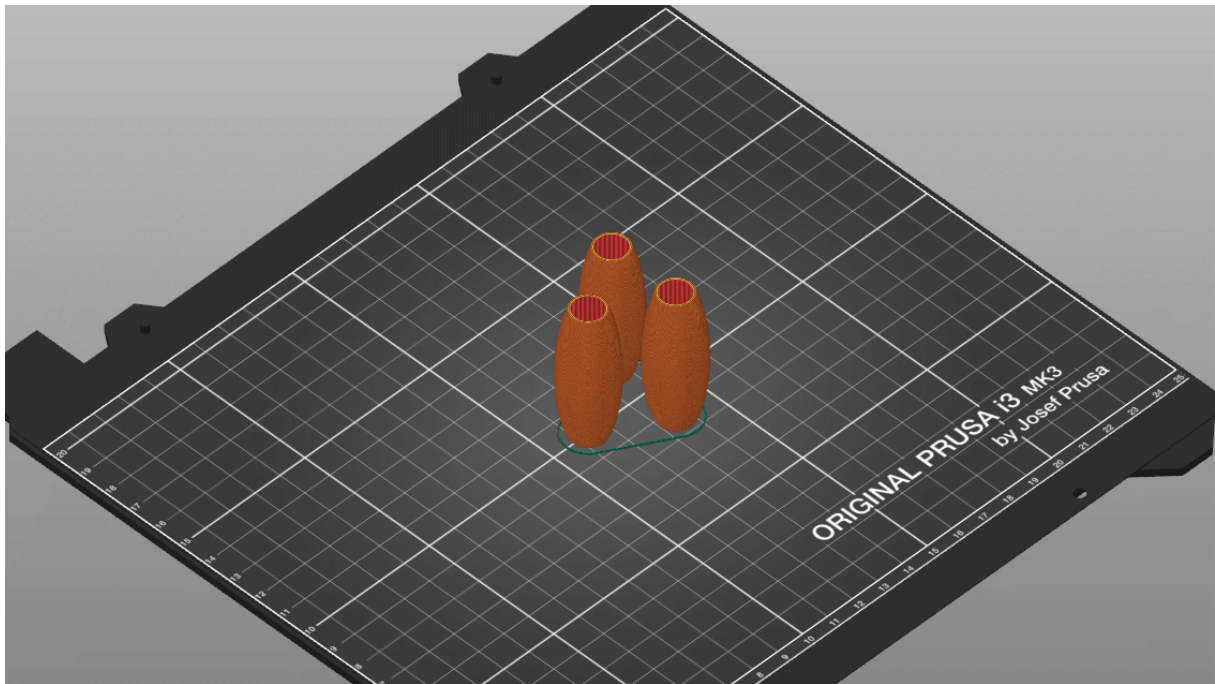
The base is printed with a hexagonal hole for the upright post. 9x holes on top of the base to embed 4mm diameter x 1mm depth 0.16kg pull magnets.



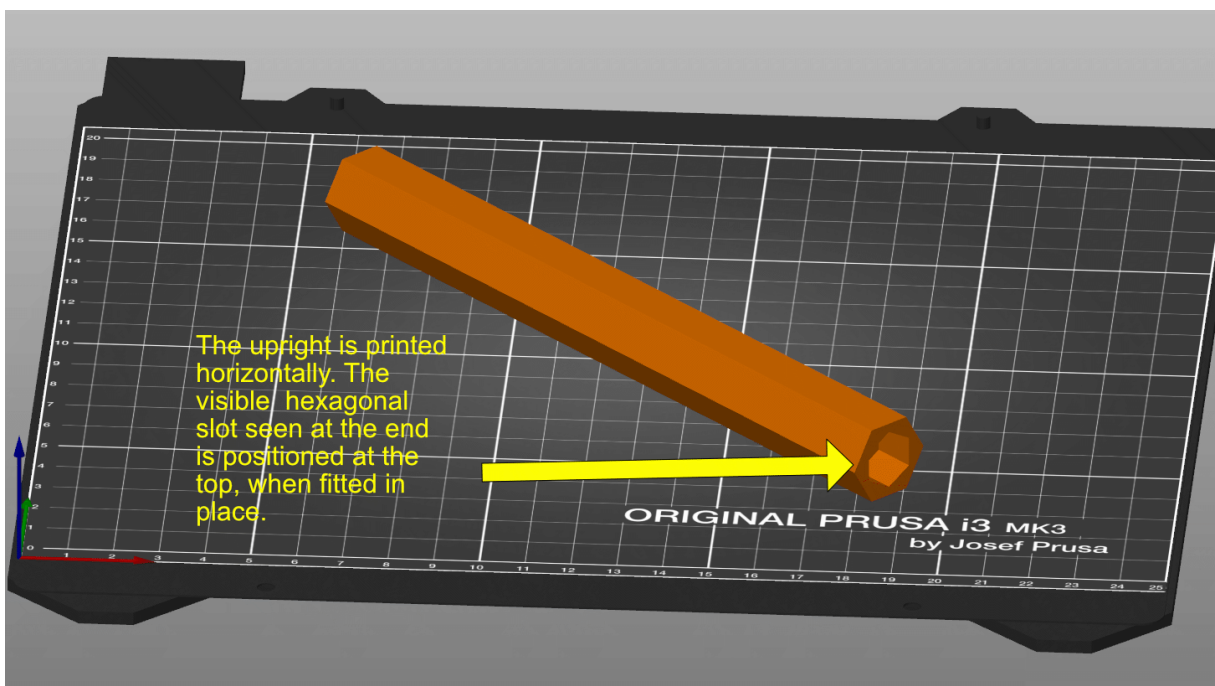
On the 1st layer of the base I have marked 4x rectangles 15 x 20mm in size to help position the optional feet, by not printing those rectangles.



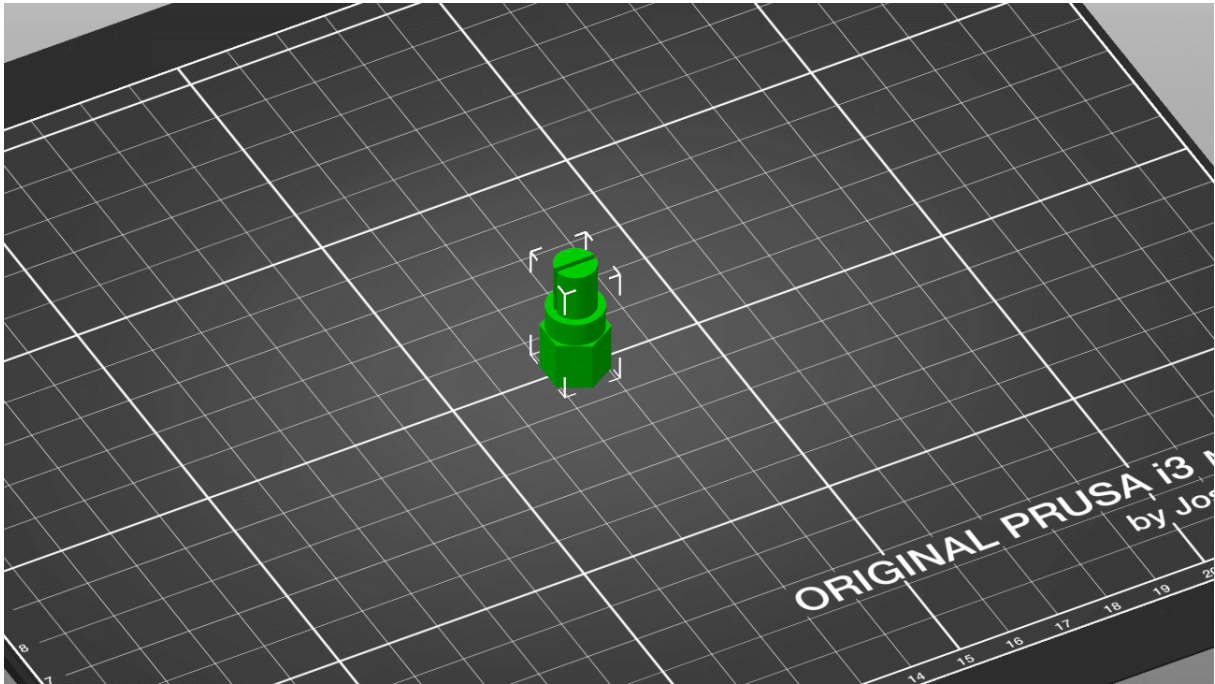
I like to print 3 Skittles at a time to reduce possibility of print errors.



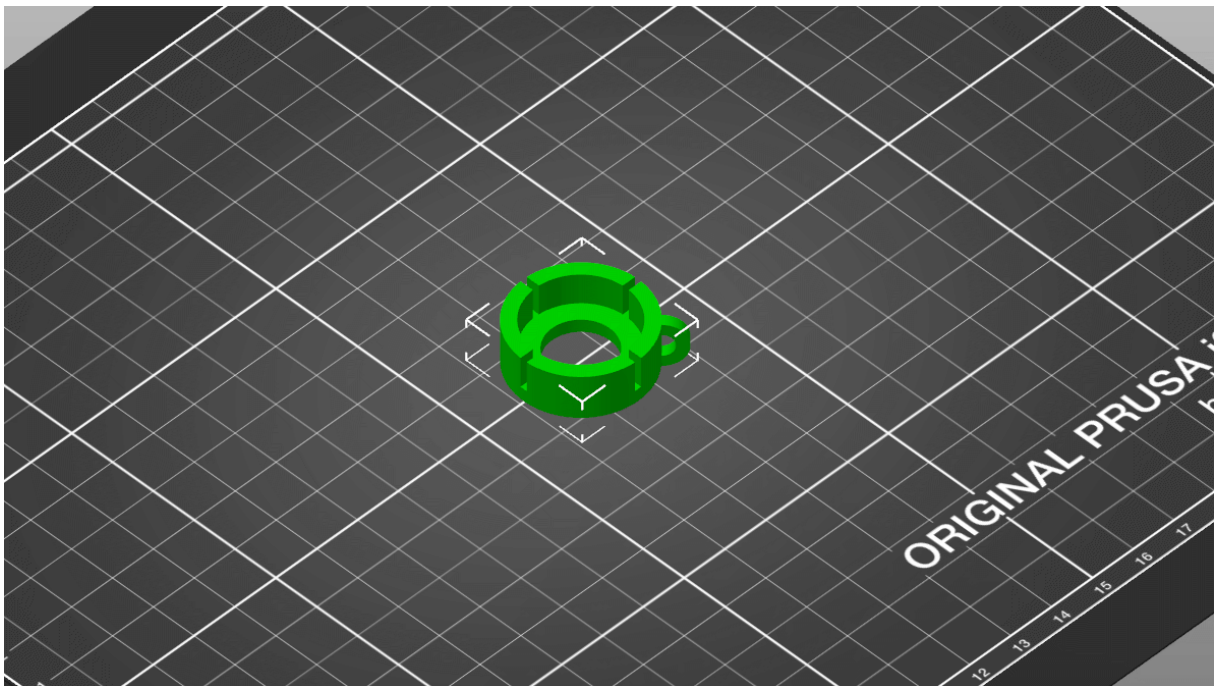
Long Upright Post is actually printed Horizontally. There is an Hexagonal slot where the 'Inline Bearing Pin' fits, when in place.



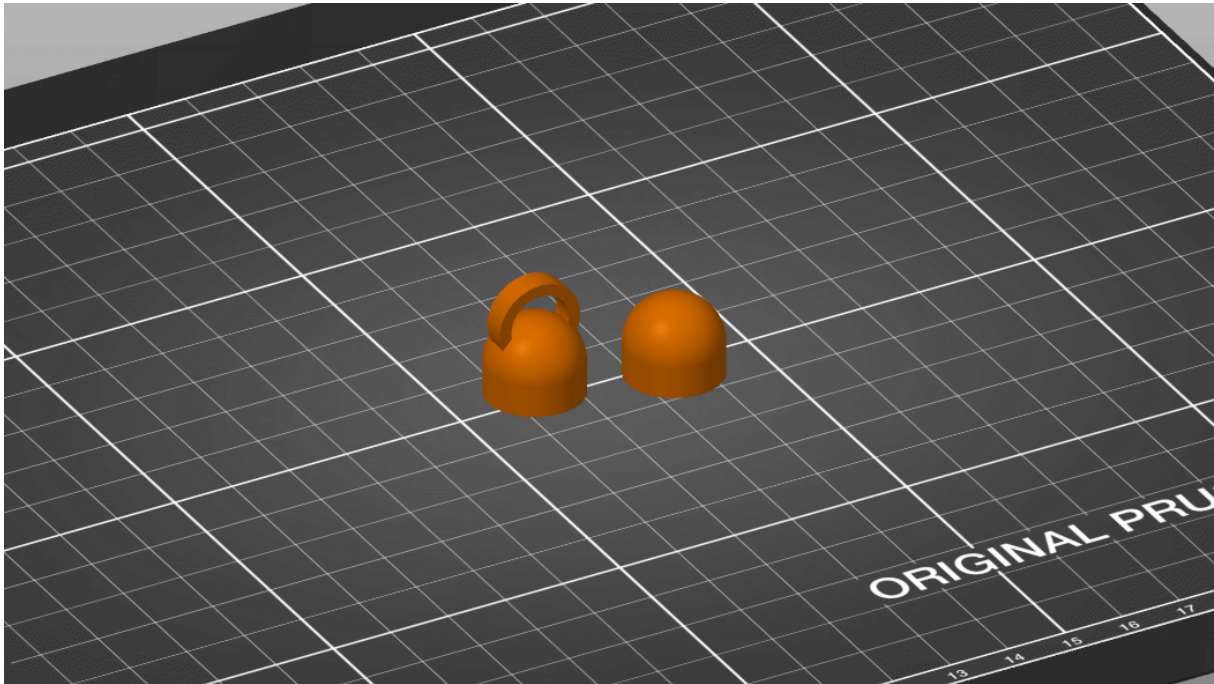
In line Bearing Pin is printed upright ensuring the cylinders are printed circular, The slot helps to grip the inline bearing when fitted on top of it.



Inline Bearing Cap



2x Ball Bearings cover is printed in two halves so the bearings can be glued inside.



The fine stainless steel chain is threaded through the Inline Bearing cap and 2x Ball Bearing Cover, with both ends held in place with the use of split rings. The length of chain I use is 210mm and I adjust the length so that the weight when hung straight swings a couple of mm's from the base.

**Rules of the game.**

When playing the game you should throw the weight clockwise around the back of the post with the weight only going around the post once, then it should be caught. (easier said than done)

Each player taking it in turn to have three throws. The skittles are reset for each players start.

If one player knocks all the skittles down on his 1st or 2nd swing the skittles can again be reset. Each Skittle knocked down equals one point.

The first player to reach a score of 101 is the winner.

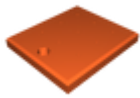
You can make up your own rules.

When I have played the game with my 3D printed set I have found the skittles nearest the post are difficult to hit when using only a clockwise swing. Therefore I have included the rule that the swings can be either clockwise or anti-clockwise, but must be swung behind the post.

I thought about printing 3 different colours of skittles, each colour having one, two or three points each.

Have FUN!

Model files



base.3mf



3x-skittle.3mf



upright-post.3mf



inline-bearing-pin.3mf



bearing-cap.3mf



10mm-ball-bottom-and-top.3mf



4x-rubber-feet.3mf

Print files



base_03mm_pla_mk3s_5h9m.gcode

🌀 PLA 📏 0.40 mm 📐 0.30 mm ⌚ 5.15 hrs ⚖️ 153 g 🖨️ Prusa MK3/S/S+



skittle_03mm_pla_mk3s_54m.gcode

🌀 PLA 📏 0.40 mm 📐 0.30 mm ⌚ 0.90 hrs ⚖️ 17 g 🖨️ Prusa MK3/S/S+



upright-post_03mm_pla_mk3s_1h2m.gcode

🌀 PLA 📏 0.40 mm 📐 0.30 mm ⌚ 1.04 hrs ⚖️ 23 g 🖨️ Prusa MK3/S/S+



inline-bearing-pin_03mm_pla_mk3s_13m.gcode

🌀 PLA 📏 0.40 mm 📐 0.30 mm ⌚ 0.21 hrs ⚖️ 1 g 🖨️ Prusa MK3/S/S+



bearing-cap_02mm_pla_mk3s_21m.gcode

🌀 PLA 📏 0.40 mm 📐 0.20 mm ⌚ 0.35 hrs ⚖️ 3 g 🖨️ Prusa MK3/S/S+



10mm-ball-bottom-and-top_015mm_pla_mk3s_34m.gcode

🌀 PLA 📏 0.40 mm 📐 0.15 mm ⌚ 0.57 hrs ⚖️ 3 g 🖨️ Prusa MK3/S/S+



4x-rubber-feet_02mm_flex_mk3s_22m.gcode

🌀 Flex 📏 0.40 mm 📐 0.20 mm ⌚ 0.37 hrs ⚖️ 2 g 🖨️ Prusa MK3/S/S+

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