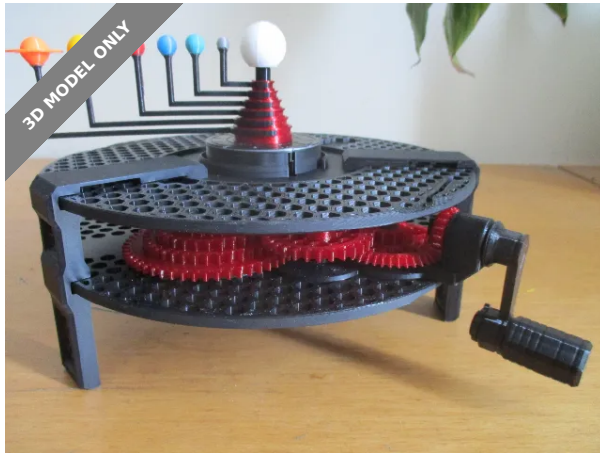




Spooletarium - Mechanical Solar System



M4NU

[VIEW IN BROWSER](#)

updated 20. 5. 2026 | published 20. 5. 2026

Summary

Universal Upcycling of Prusament Spools

[Learning](#) > [Physics & Astronomy](#)

Tags: [space](#) [gears](#) [mechanism](#) [astronomy](#) [sun](#) [planets](#)
[universe](#) [solarsystem](#) [orrery](#) [planetarium](#)

This orrery shows the revolution of the six first planets of the Solar system : Mercury, Venus, the Earth, Mars, Jupiter and Saturn. There are 18 gears driven by a crank.

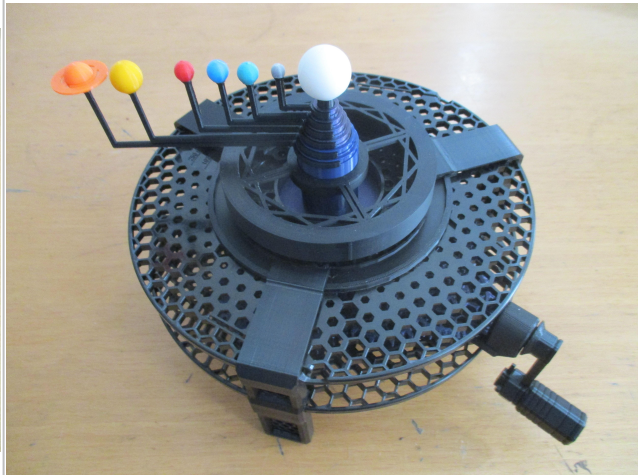
You need an empty **Prusament Spool** to build it. If you don't have a Prusament spool, you can print one (use "Spool_Prusament_NFC" in "All Individual Parts")

This planetarium is adapted to the new Prusament Spool NFC and also to the "Classic" Prusament Spool. Choose your files according to your type of spool.

Spooletarium NFC Spool



Spooletarium Classic Spool



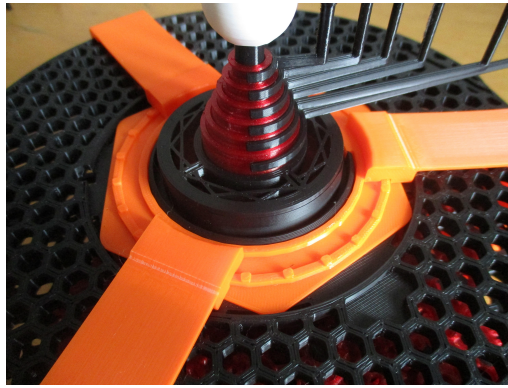
Print settings :

- Filament : PLA
- Layers : maximum 0.20 mm
- Nozzle : 0.4 mm



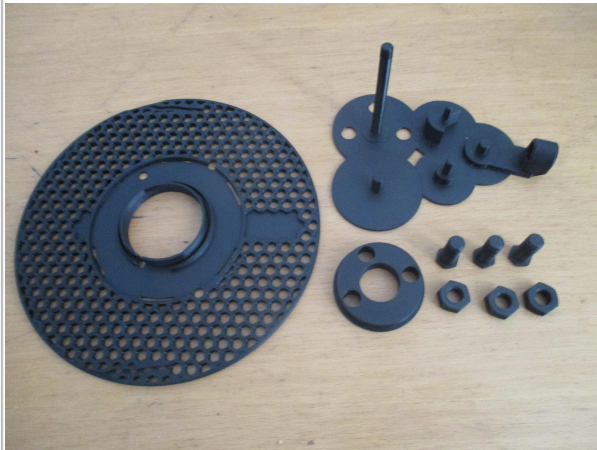
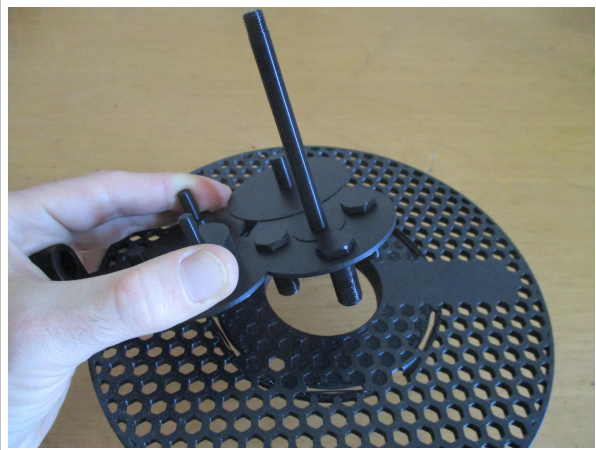
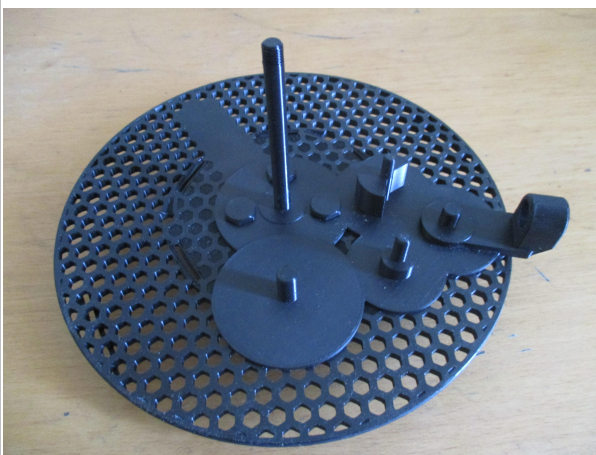
Edit 2026/05/20 : new file "Spoonletarium_Classic_Structure_Edit". There was a mistake in this plate. It was noticed by [@BrianAmato_717081](#) (thank you so much !). If you had already printed the old file, you need to print a "Support_(Classic_Spool)" (see in "Individual Parts").

Edit 2026/05/01 : new ring to increase pillar stability

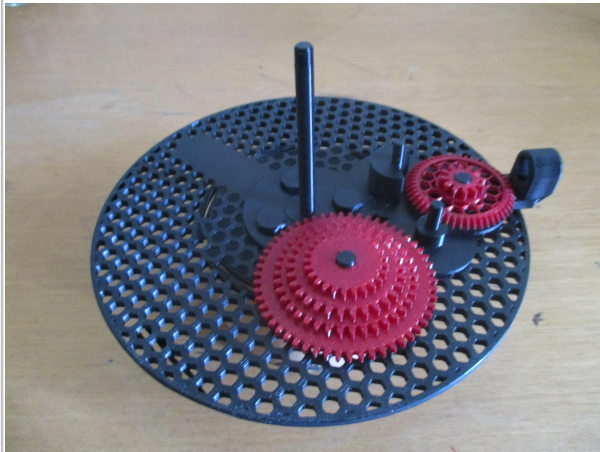
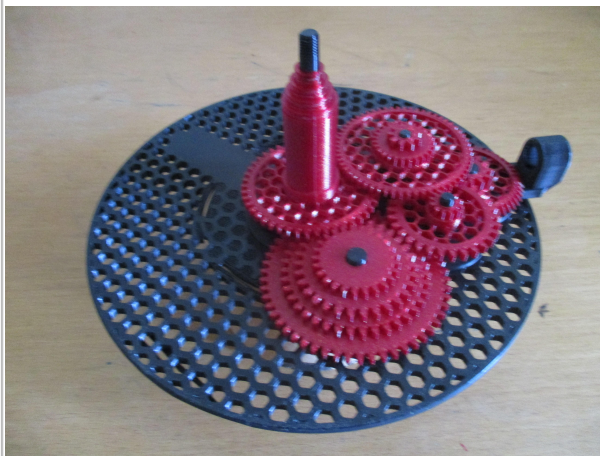
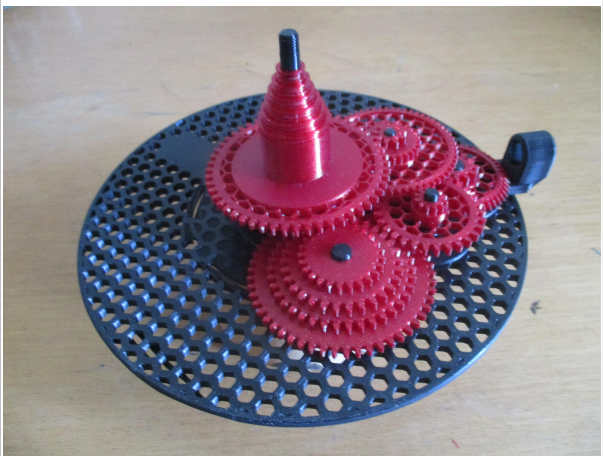


Instructions :

- Structure :

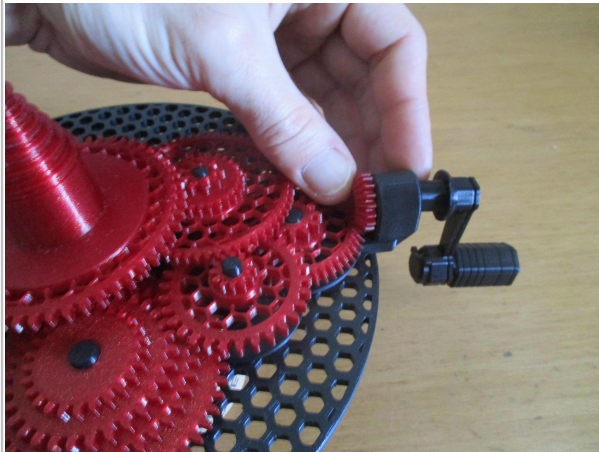
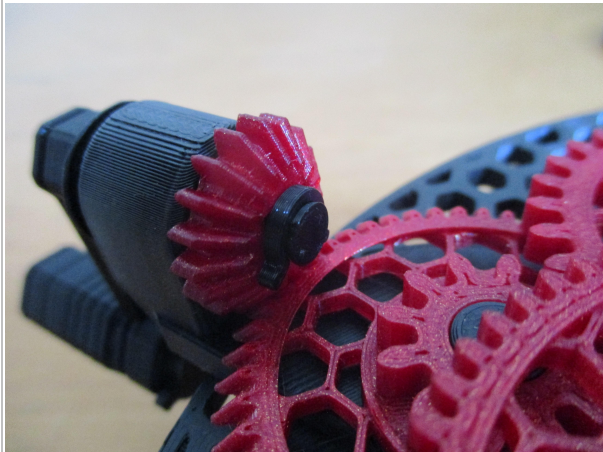


- Gears :



- Crank



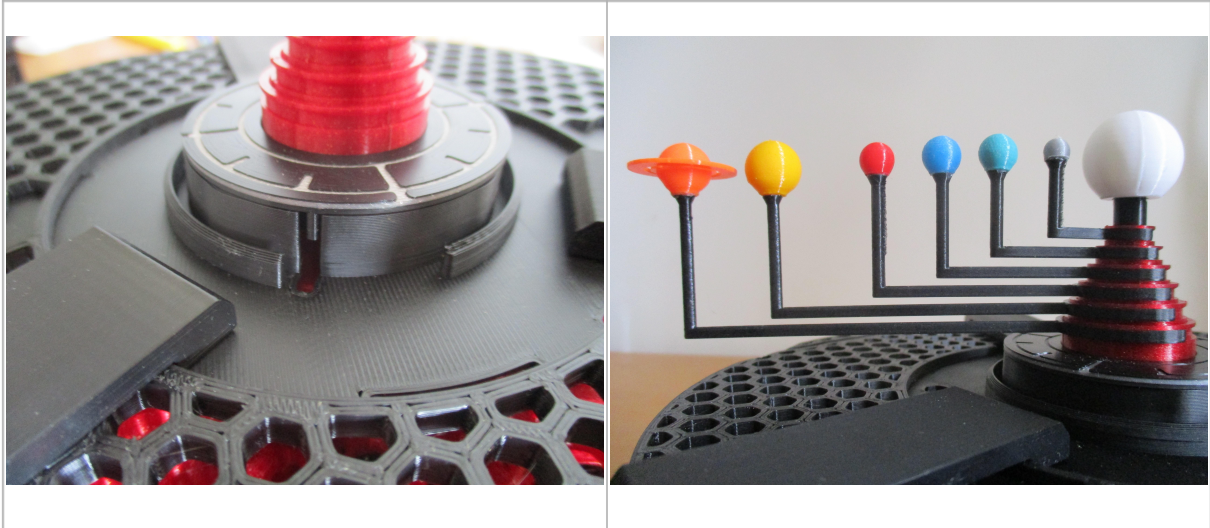


- Pillars :



For more stability you can glue the rings to the spools.

- Planets : glue the planets on the supports



Planets Revolution :

The following multiplications indicate the gear train used for each planet.

Earth : 365.256 days (reference)

Mercury : $365.256 \times 13 / 54 = 89.932$ days (real : 89.969 days)

Venus : $365.256 \times 24 / 39 = 224.772$ days (real : 224.699 days)

Mars : $365.256 \times 47 / 25 = 686.681$ days (real : 686.979 days)

Jupiter : $365.256 \times 60 / 12 \times 64 / 27 = 4328.96$ days (real : 4332.59 days)

Saturn : $365.256 \times 60 / 12 \times 53 / 9 = 10\,754.76$ days (real : 10 759.23 days)

Model files



Spooletarium NFC

4 files

spooletarium_nfc_gears.stl



spooletarium_nfc_pillars.stl





spooletarium_nfc_structure.stl



spooletarium_planets.stl



Spooletarium Classic

4 files



spooletarium_classic_gears.stl



spooletarium_classic_pillars.stl



spooletarium_classic_structure_edit.stl

☐ 2026-05-20 Edit : the "Support" has been modified



spooletarium_planets.stl



All Individual Parts

53 files



bolt.stl

☐ PRINT x 3



cap_down.stl



cap_up_classic_spool.stl



cap_up_nfc.stl



clip_earth_full.stl



clip_earth.stl



clip_jupiter_full.stl



clip_jupiter.stl



clip_mars_full.stl



clip_mars.stl



clip_mercury_full.stl



clip_mercury.stl



clip_saturn_full.stl



clip_saturn.stl



clip_venus_full.stl



clip_venus.stl



crank_clip.stl



crank_handle_clip.stl



crank_handle.stl



crank.stl



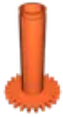
gear_center_1_classic.stl



gear_center_1_nfc.stl



gear_center_2_classic.stl



gear_center_2_nfc.stl



gear_center_3_classic.stl



gear_center_3_nfc.stl



gear_center_4_classic.stl



gear_center_4_nfc.stl



gear_center_5_classic.stl



gear_center_5_nfc.stl



gear_center_6_classic.stl



gear_center_6_nfc.stl



gear_crank.stl



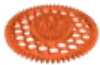
gear_relay_1.stl



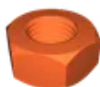
gear_relay_2.stl



gear_tower_1.stl



gear_tower_2.stl



nut.stl

☐ PRINT x 3



pillar_classic_spool.stl



pillar_nfc.stl



planet_earth.stl



planet_jupiter.stl



planet_mars.stl



planet_mercury.stl



planet_saturn_ring.stl



planet_saturn.stl



planet_venus.stl



ring_classic_spool.stl



ring_nfc.stl



spool_prusament_nfc.stl



sun.stl



support_classic_spool.stl



support_nfc.stl

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