FARMING MARS 2024
HOW TO MAKE GAME ELEMENTS

Below you will find a tutorial for making the game elements (plants) in case the official elements are not available to you.

NOTE : These versions of the game elements were designed to be as close as possible to commercial game elements. However, differences may be present. Organizations committees will try their best to use the commercial version of the game elements.

The Planète Sciences association, or national committee, or the eurobot contest, will in no way be responsible for manufacturing defects or any other problem linked to the manufacturing process.

Necessary material :

- A 3D printer and white and black PLA filament
- Branches or foliage of artificial plants (plastic or textile)
- A little bit of glue

1) Manufacturing of pots and soil in 3D printing

From the .stl files that you can download from the competition website[1], print the pots with white PLA filament and black filament for the earth.

Recommended 3D printing settings are:
- Infill density : 20%
- Infill pattern: cubic
- Printing nozzle: 0.4 mm
- Layer thickness: 0.2 mm
- Wall thickness (outer shell): 0.8 mm (i.e. 2 passes)
- Thickness of the top layers: 0.8 mm (i.e. 4 passes)
- Thickness of the bottom layers: 0.8 mm (i.e. 4 passes)
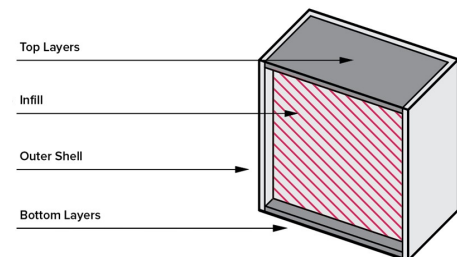
2) Assembly

By using a piece of branch or foliage made from an artificial plant as the plant part, you can assemble the pots, soil and plant. If the elements do not hold together even after assembly, you can use a little glue (cyanoacrylate) to fix them.

3) Compliance check

Once your assembly has been completed, it is necessary to check whether they are compliant to be game elements. The game element must:
- Have a height between [105, 120] mm
- Have a diameter, in vertical projection, of between [70, 85] mm.

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[1] https://www.eurobot.org/eurobot-contest/eurobot-2024/