

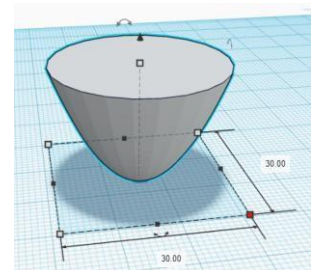
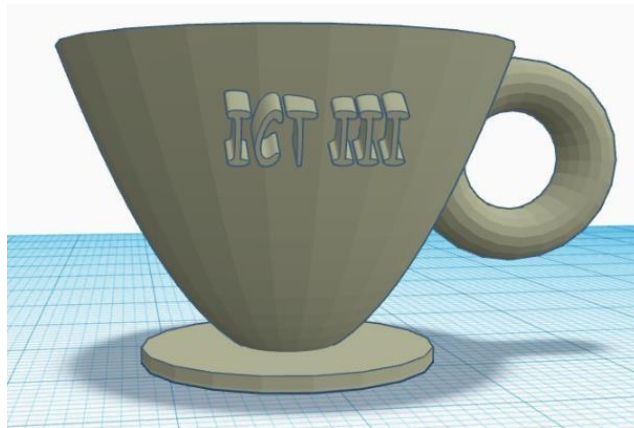
We would like to organize an end-of-year trip to Iceland. To do this, we had thought of creating some 3D souvenirs and printing them so that we could sell them and finance ourselves.

First of all, we will use the 3D online design program "Tinkercad", and then we will create a spreadsheet to see the profits from the sale.

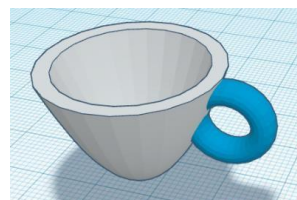
Your tasks:

1. OPEN TINKERCAD AND FOLLOW THE INSTRUCTIONS.

This is the object we would like to create:



- Add a paraboloid 30x30x21
- Add another paraboloid of 25x25x18 and center to the other to make the hollow
- Group the two elements together
- Add a toroid of 15x14x5mm and as the picture.
- Group the two elements together
- Open the text editor ○ Write: ICT III ○ set: font – Comic Sans MS, bold



- vectorize the text ○ make a screen of text and insert it to the program

Paint (part of the Windows) ○ crop the screen so that only text remains

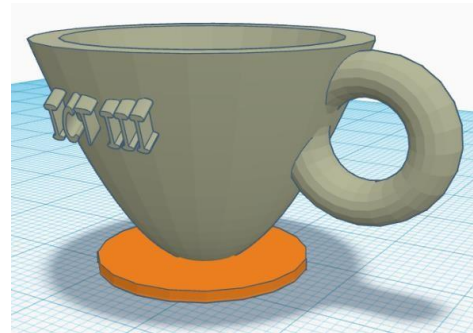
- save it to png format ○ open <https://vectorization.eu/> ○

convert png to svg and save it to the PC

- Go back to Tinkercad
- Import the svg file with the text
- Set the dimensions: 10x4x2mm
- Place the text according to the picture
- Group all the objects
- Add now the plate 20x20x1mm
- Group all the objects
- Save as Name_cup in stl format
- Send a link to your ICT teacher's email – use this button ->



- Attach the stl file too.



2. IN A SPREADSHEET, PREPARE A PROFITS CALCULATOR

Before calculating the profits we will have to take into account all the costs, please read it closely:

- Design ○ Spreadsheet + 3D modeling 20 € ● Materials:
 - Renting a 3D printer 2 €/day
 - 3D filaments 15 €/reel
 - We will print in three different colors (red, blue and green). At the beginning we will buy one reel of each.
- We have 3 months (90 days) to sell souvenirs and we need 1 reel of filament to print 20 souvenirs
- General costs (electricity, etc) 30 €

Calculator

- Rename a blank worksheet in the spreadsheet program to 3D Profit Calculator.

TABLE COSTS

- Edit a table **Costs** on this sheet, including a title, border, cell shading, and different text orientations.
 - Insert all costs associated into this table in red.

TABLE AMOUNTS

- Cells C11:C25 – write down how many reels do we need to print appropriate amount of souvenirs (written in the beginning).
- To cell B27 we can write down the amount of souvenirs we have already printed (only by the tens).
- Cell C27 – use the relevant function to display how many reels do we need depending on cell B27.

TABLES RESULTS AND SOUVENIR PRICE

- In the resulting table calculate the costs, sales and profit depending on the number of amount of souvenirs in the same row.
 - We have decided to sell each souvenir at a price of **5,5€**.
 - Use absolute cell references for calculations.
- In cells E27:G27 calculate the final costs, sales and profit depending on the number of the sold souvenirs (B27).

ANSWER

- Find out and write in a complete sentence under the table, at what number of souvenirs we will get benefits and the sale will be profitable.