Kadriorg Palace Project.

Description

In this activity we are going to model and design the Kadriorg Palace. It is located in Tallinn, the capital city of Estonia and it is one of the main tourist attractions of the city.

In 1718, Peter the great ordered the construction of this palace in order to commemorate his wife Catherine I of Russia. However, the current construction is not the original one due to the several restorations since the Russian royalty left this place.

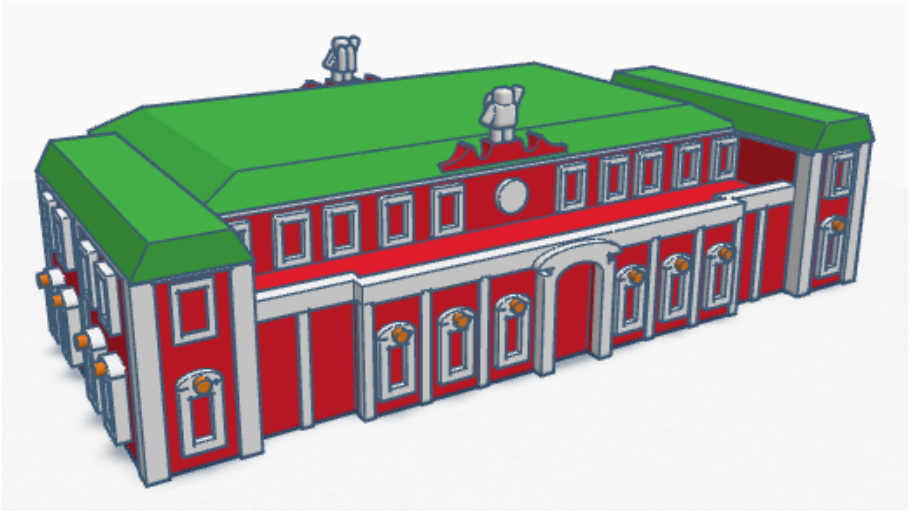
With the passage of the years the palace turned into the home of the president and even the venue of the Estonia's art museum. The palace was deteriorating over the years, so it was closed and they created a new building called KUMU, it was a museum.

Nowadays, after its restoration, it is still a museum as a part of the art gallery in KUMU. Its gardens are one of the main attractions of the city.

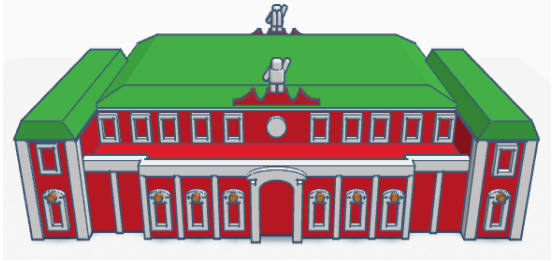
Objectives

- Replicate a 3D model trying to be as realistic as possible.
- Use basic shapes to shape a complex design.
- Use empty shapes to create holes.
- Rotate different shapes to get striking structures.

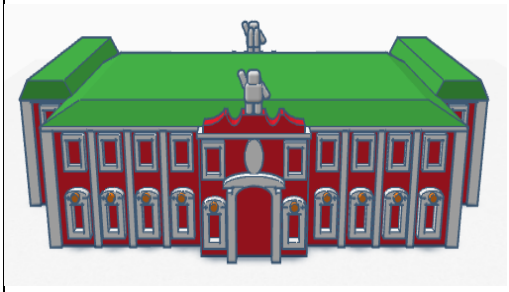
Reference model designed in Tinkercad.



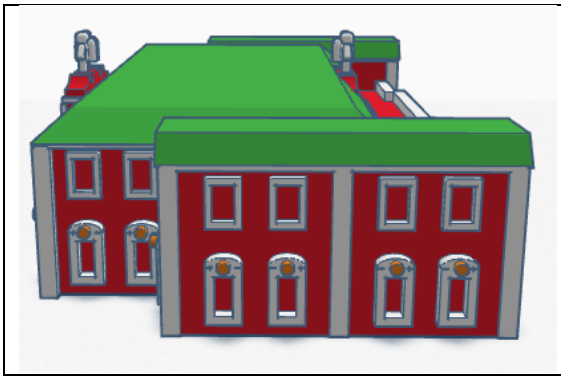
Front view

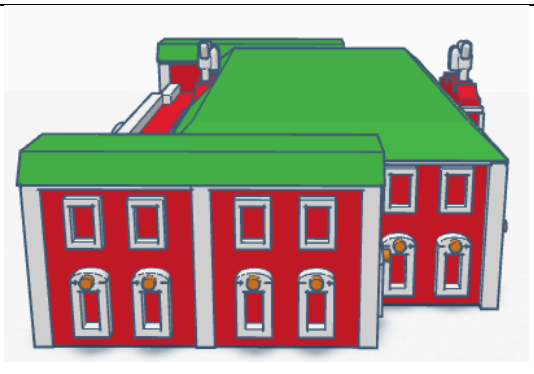


Rear view



Lateral view





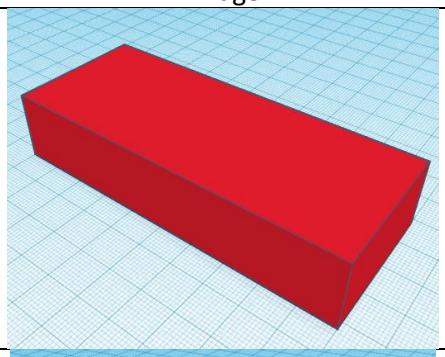
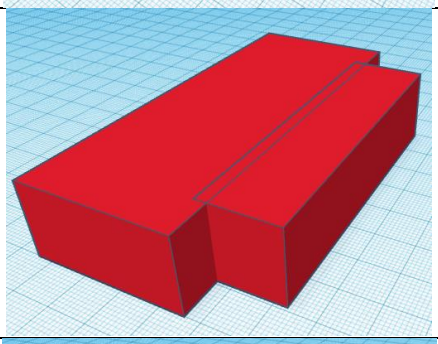
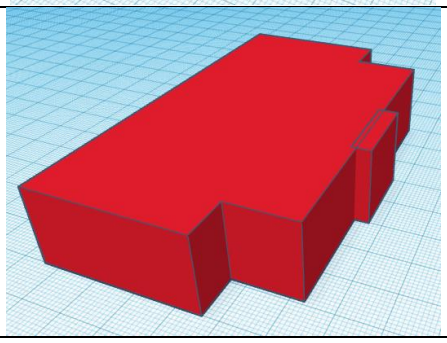
Model features.

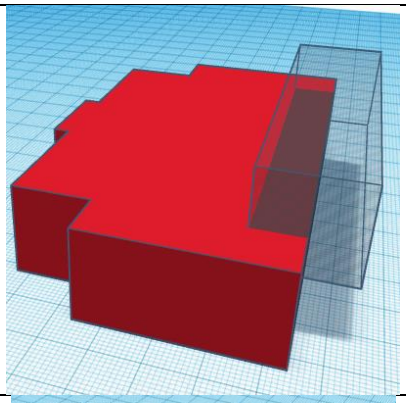
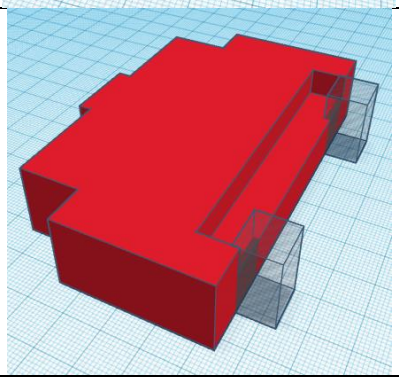
This model has been designed using only basic shapes in Tinkercad, we can use different shapes at the end.

The project is divided into 3 parts:

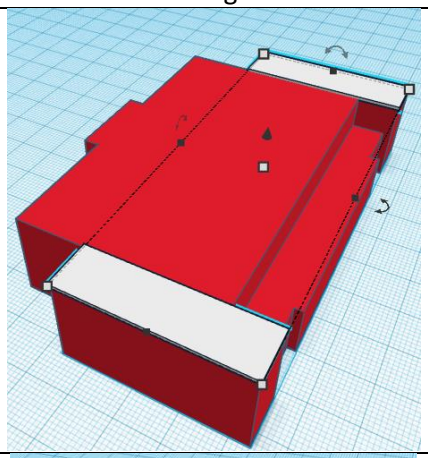
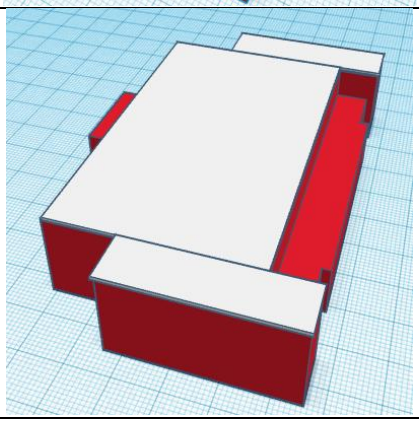
- Main structure.
- Roof.
- Facade

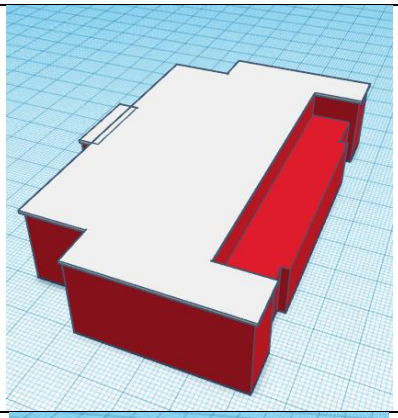
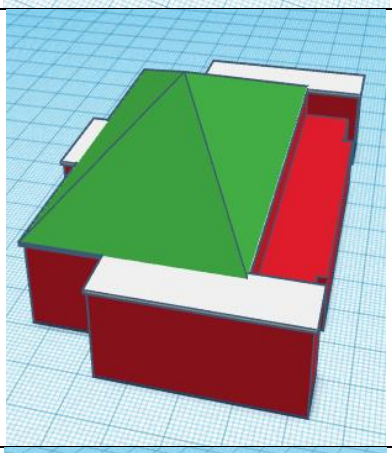
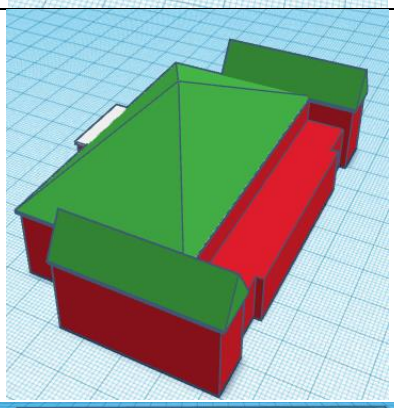
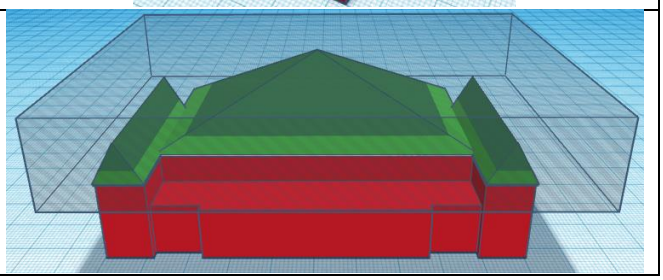
Main structure.

3D Object	Size	Image
Box	100mm wide x 40mm long x 20mm high	
Box	78mm wide x 20mm long x 20mm high	
Box	20mm wide x 4.60mm long x 20mm high	

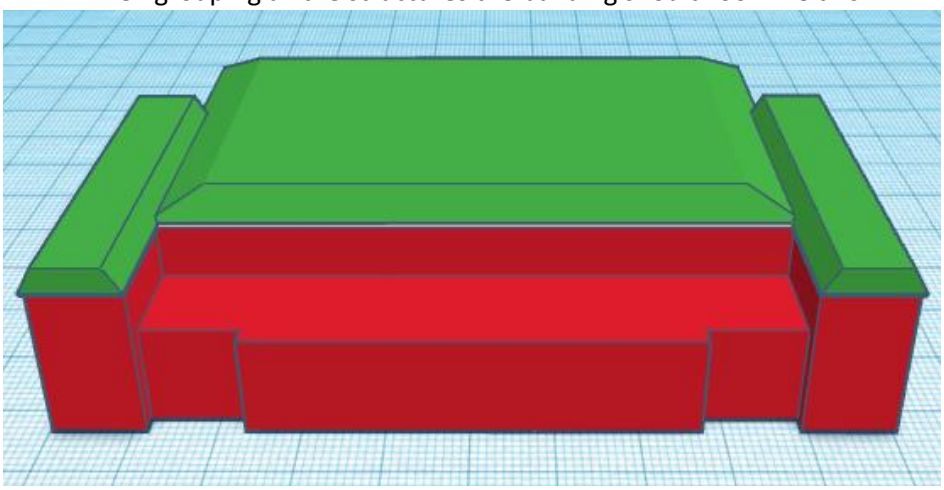
Empty box	78mm wide x 20mm long x 20mm high	
Box x2	12mm wide x 11mm long x 20mm high	

Roof.

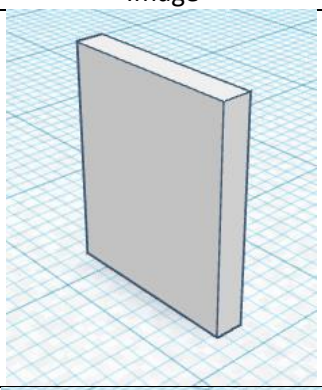
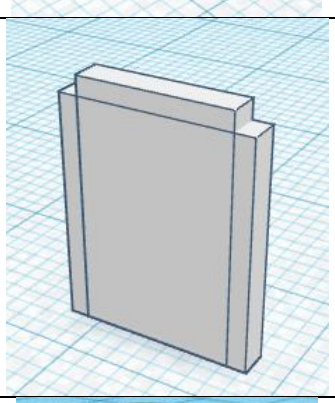
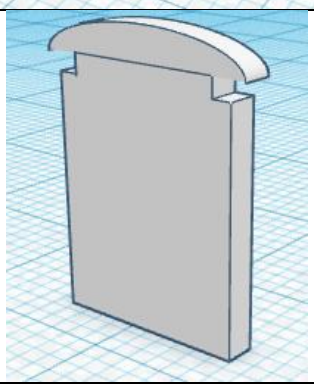
3D Object	Size	Image
Box x2	11.40mm wide x 41.10mm long x 0.5mm high	
Box	80.20mm wide x 44.50mm long x 0.50mm high	

Box	20mm wide x 5.30mm long x 0.50mm high	
Pyramid	80.30mm wide x 44.30mm long x 20mm high	
Pyramid x2	12mm wide x 11mm long x 20mm high	
Empty box	137mm wide x 90.80mm long x 20mm high	

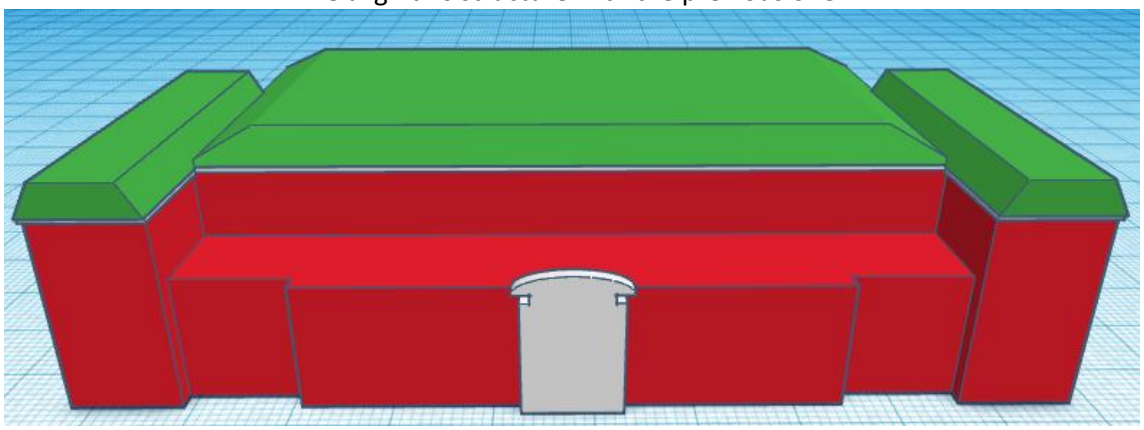
When grouping all the structures the building should look like this.

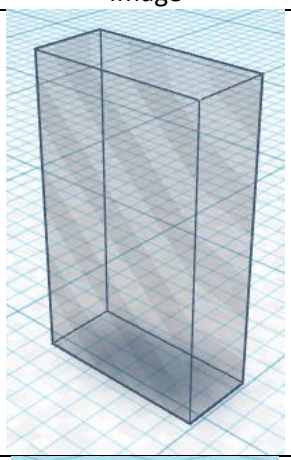
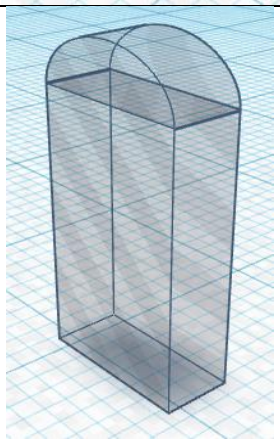


Façade.

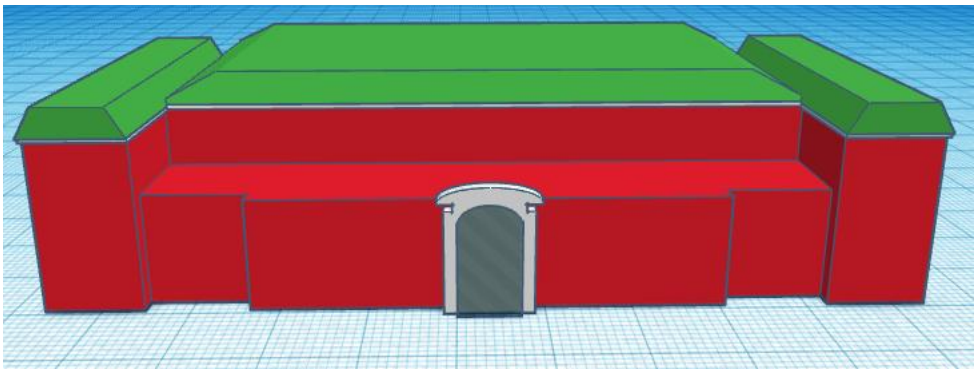
3D Object	Size	Image
Box	10mm wide x 1.50mm long x 12mm high	
Box	8mm wide x 1.50mm long x 13mm high	
Round roof	11.50mm wide x 1.50mm long x 1.75mm high	

We align this structure with the previous one.

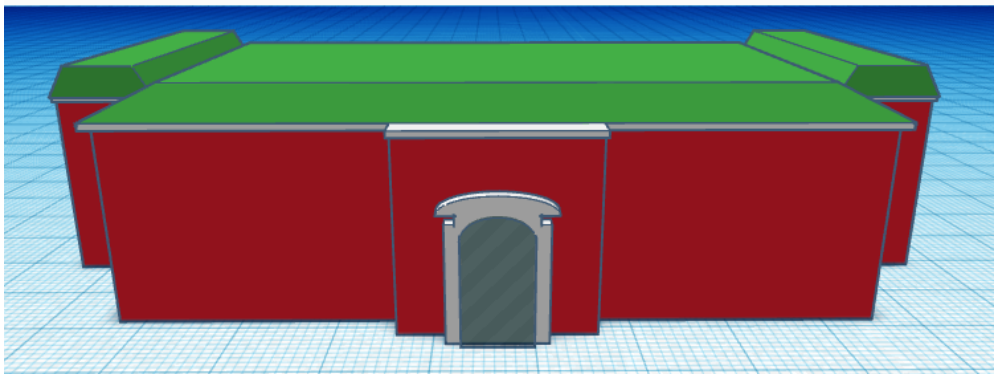


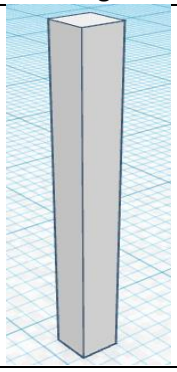
3D Object	Size	Image
Empty box	7mm wide x 3mm long x 12mm high	
Empty round roof	7mm wide x 3mm long x 2.35mm high	

After that, we are going to align this object with the others, but we do not include the empty one.

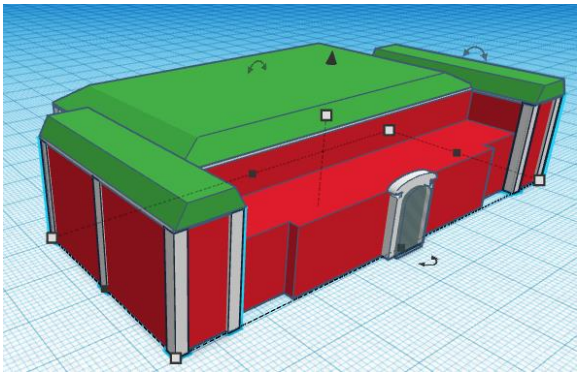


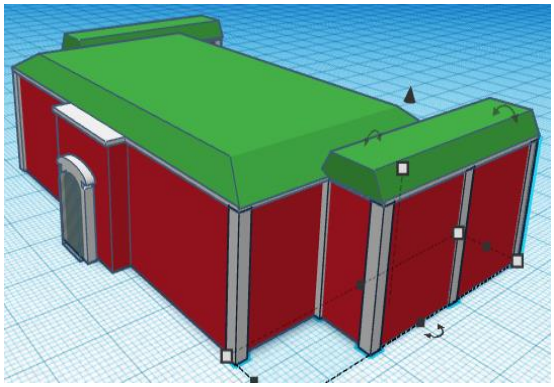
We duplicate this empty shape and the white door frame, then we take it to the other side of the structure.

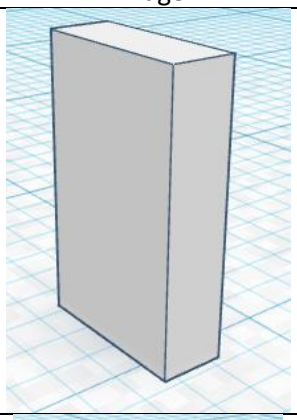
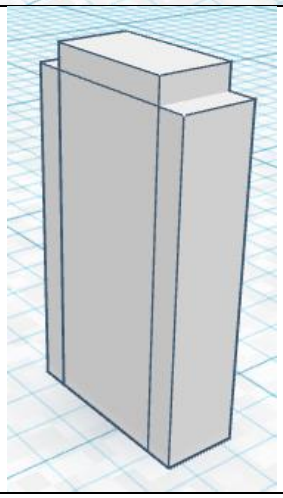


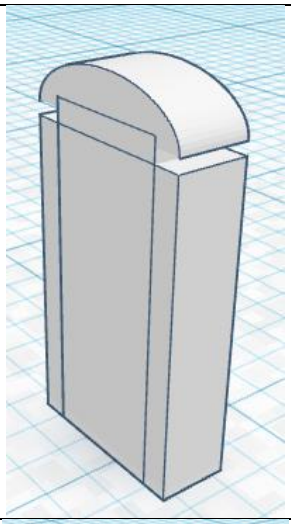
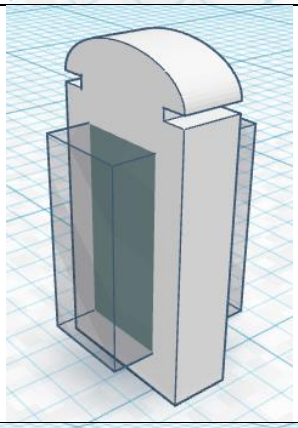
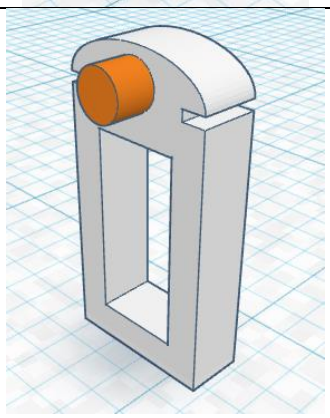
3D Object	Size	Image
Box x12	2mm wide x 2mm long x 20mm high	

Once we have these boxes, we are going to place them on the walls this way, we can adjust if necessary.

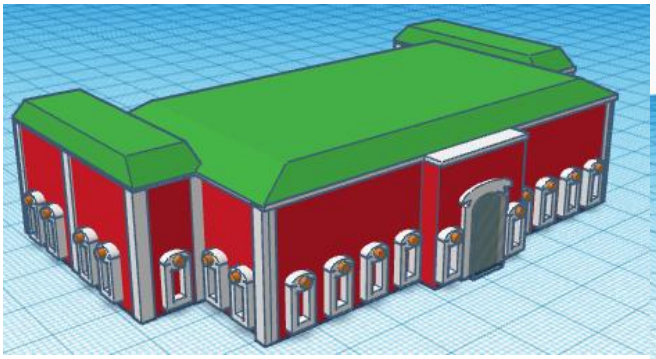


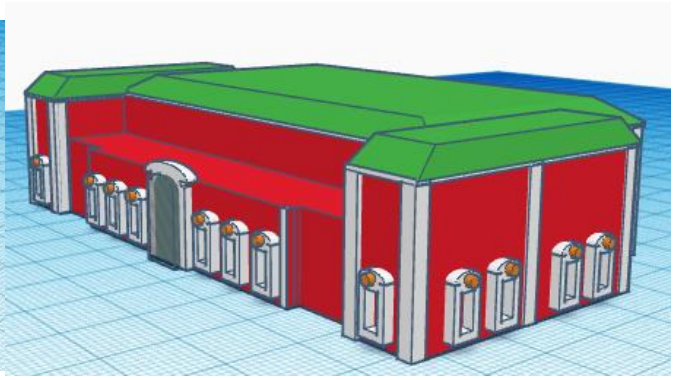


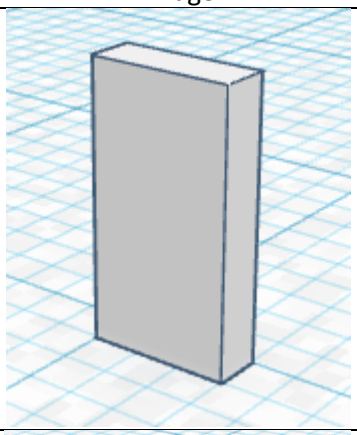
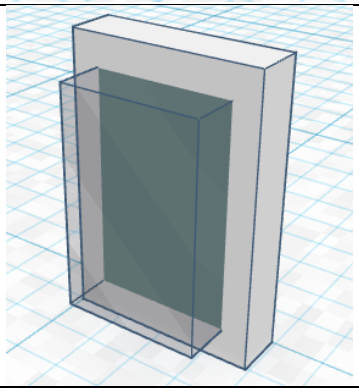
3D Object	Size	Image
Box	4mm wide x 1.50mm long x 6.75mm high	
Box	2.80mm wide x 1.50mm long x 7.25mm high	

Round roof	4mm wide x 1.50mm long x 1mm high	
Empty box	2.30mm wide x 4mm long x 5mm high	
Cylinder	Lados: 64 / Rotar 90º 1.20mm wide x 1.20mm long x 5mm high	

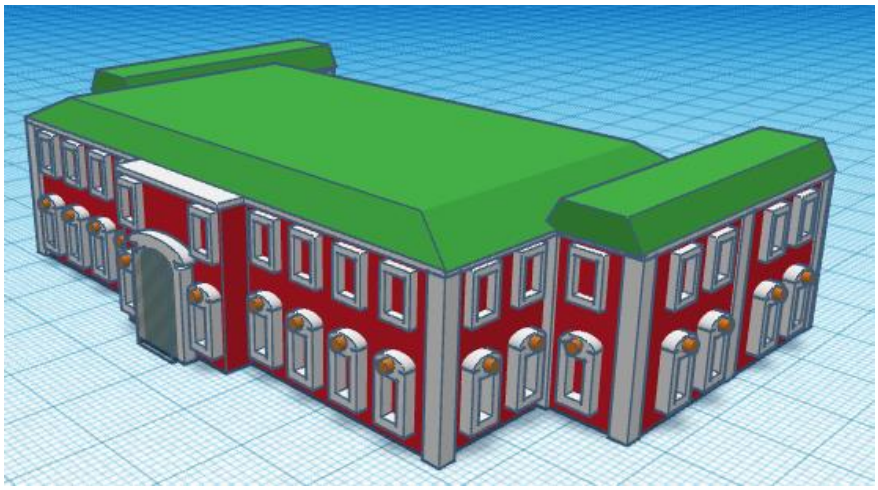
We place these windows all over the facade as we can see in the picture.

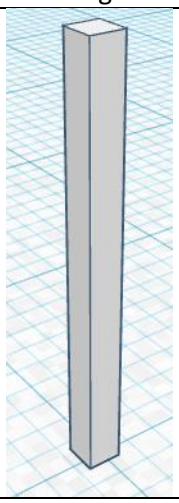




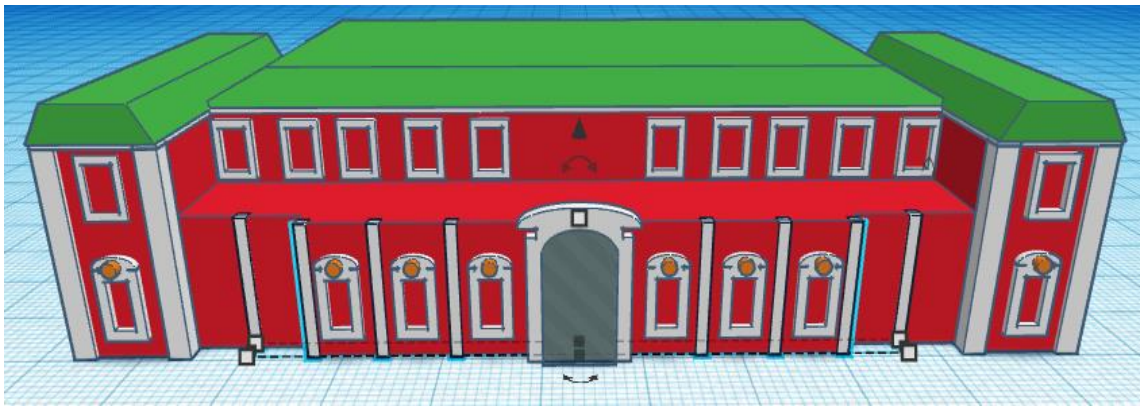
3D Object	Size	Image
Box	3.90mm wide x 1mm long x 5.80mm high	
Empty box	2.80mm wide x 1mm long x 4.50mm high	

We duplicate the windows to use them on the upper part.

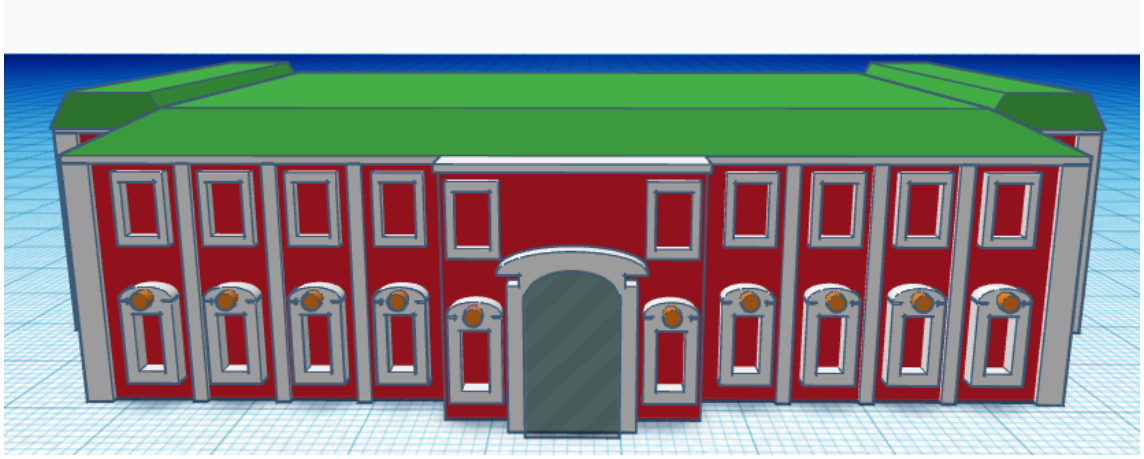


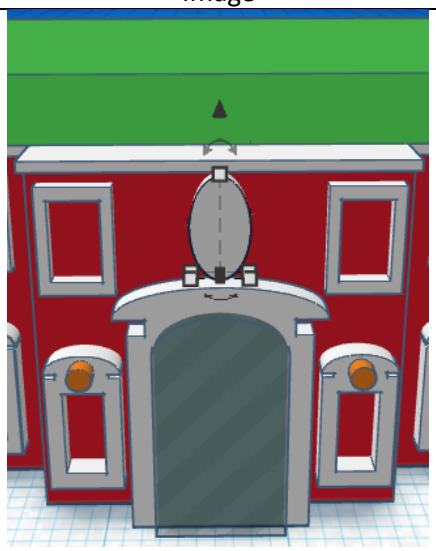
3D Object	Size	Image
Box	1mm wide x 1mm long x 13mm high	

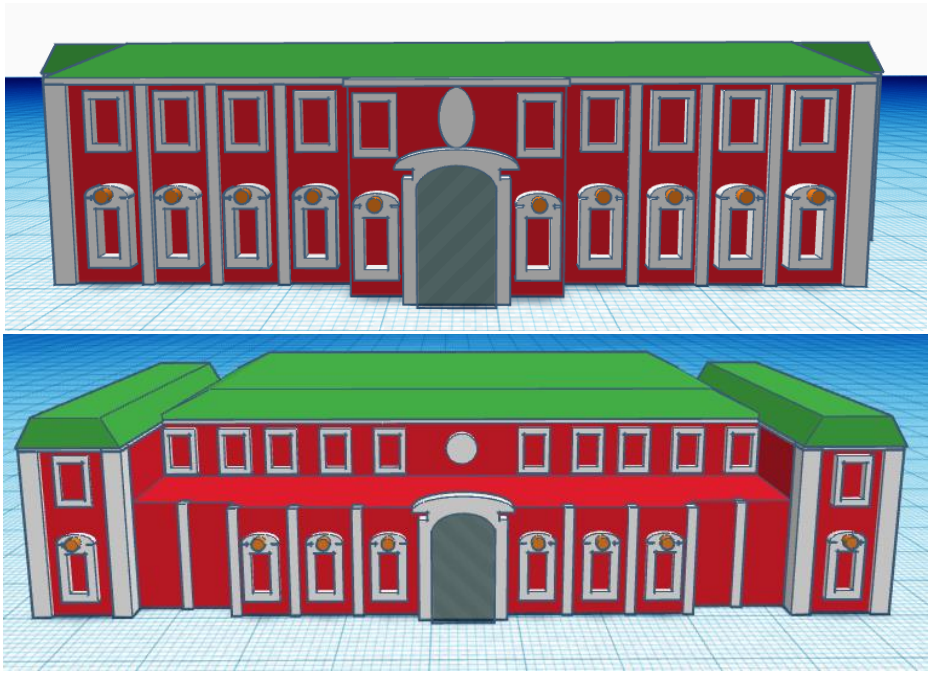
We place this box on the front façade, between the windows.

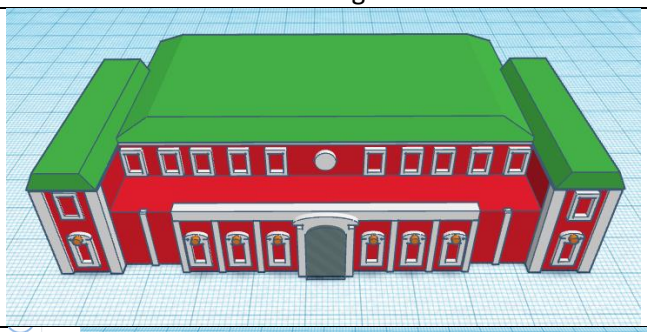
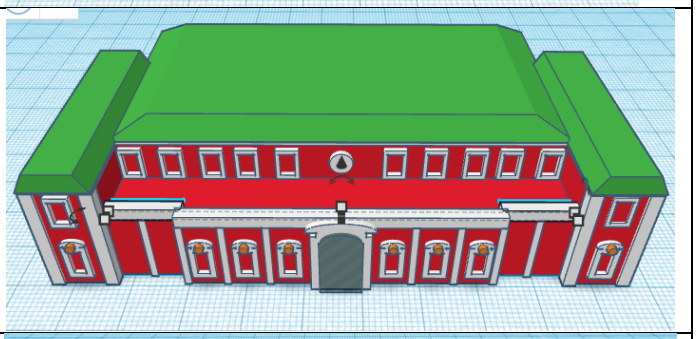
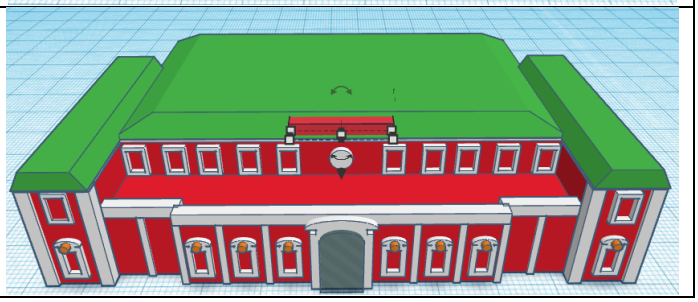


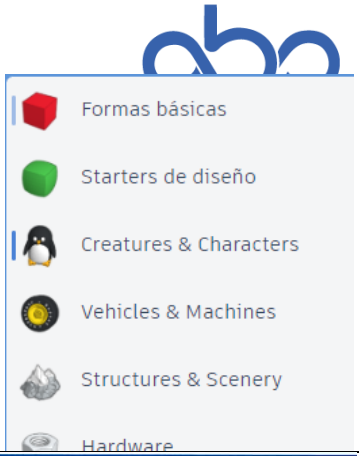
After that, we duplicate again the box and we increase the height to 20mm to place it on the back of the building.

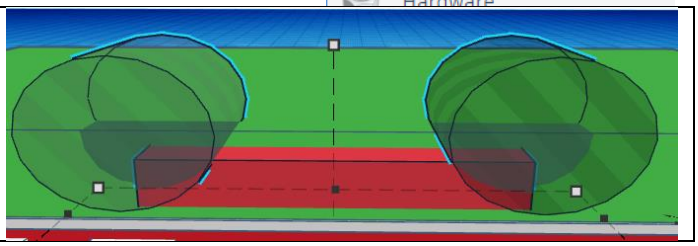


3D Object	Size	Image
Cylinder	Lados: 64 3.10mm wide x 1mm long x 5.50mm high	

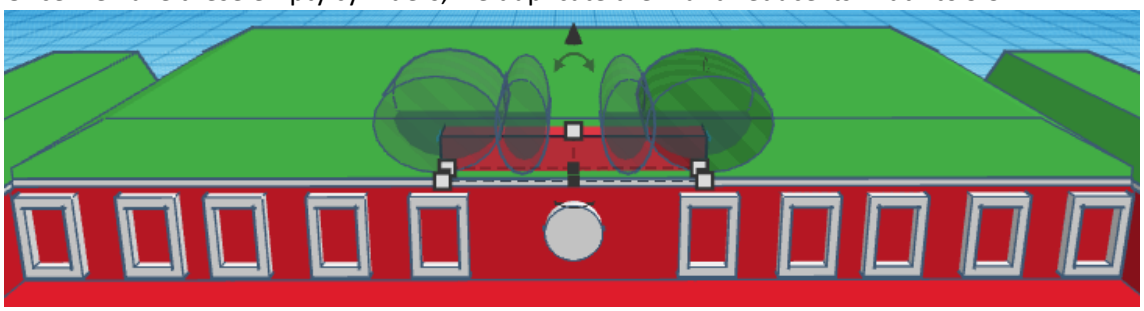


3D Object	Size	Image
Box	54mm wide x 2mm long x 2mm high	
Box	12.70mm wide x 2mm long x 2mm high	
Box	18.30mm wide x 3mm long x 3.20mm high	

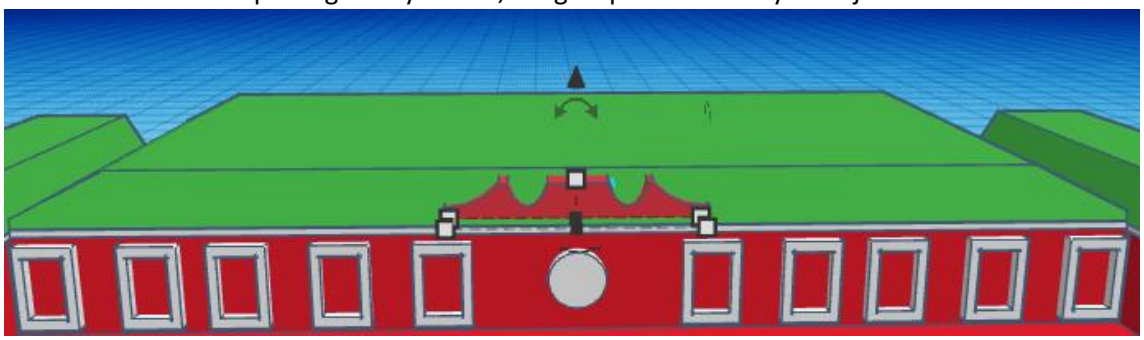


Empty cylinder	8.40mm wide x 6.56mm long x 8.40mm high	

Once we have these empty cylinders, we duplicate them and reduce its width to 9.9mm

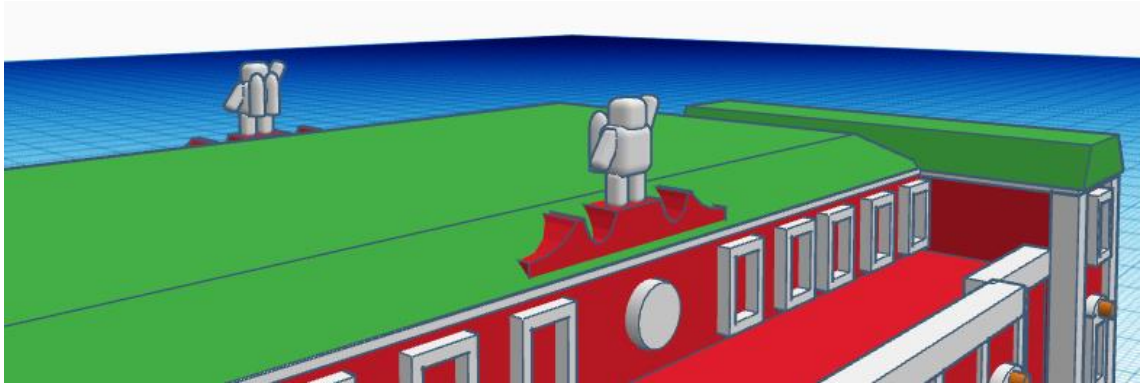


When placing the cylinders, we group them and try to adjust them

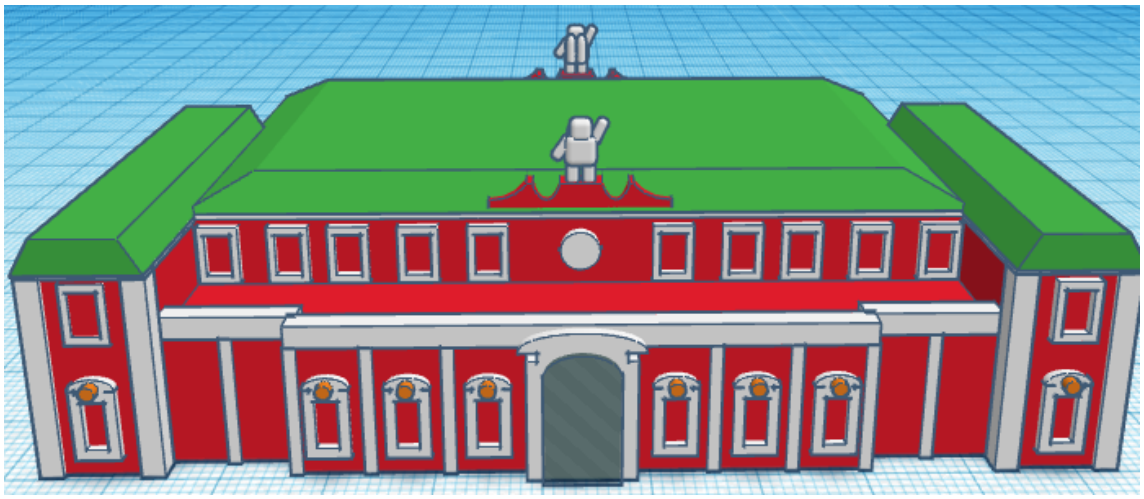


The last step is click on the Creatures and Characters

By clicking there, we will be able to select different models, we have chosen the astronaut, then we resize it and place it in both sides of the palace.



This is how it must look like.



Now is your turn to detail or edit the construction as you want. In our design, we have added the garden using different shapes to create the flowers and the fountain.