





ALEXANDER NEVSKI PRINTING PROJECT



With its characteristic domes, Alexander Nevski cathedral in Sofia is one of the most popular constructions of the city and country.

This construction began at the end of 19th century, and it ended in 1912, it was built by the architect Pomerantsev and it commemorates the fallen Russian allies in the Bulgarian-Ottoman wars. This building has the name of Alexander Nevski, a Novgorod leader and key figure of ancient Russia.

In the bottom of the cathedral there are arts collections from the 4th century to 19th century and it has an iconostasis, although it is not ancient, it has nothing to envy about the rest.

Goals

- Strengthen the handling and shaping of basic shapes.
- Replicate a 3D model trying to be as realistic as possible.
- Enhance the pupils' creativity when creating the structure and add the distinctive touch to the design.
- Empty different structures.
- Align the structures using tinkercad tools.







Reference model designed with Tinkercad



Front view



Rear view









Lateral view





Model features

When designing this building we can see 4 parts, but we will create in this guide the following ones:

- Lower floor.
- Middle floor.

LOWER PART.

3D Object	Size	Image
Box	38mm wide x 52mm long x 8mm high	







Box	42mm wide x 27mm long x 8mm high	
Вох	16.50mm wide x 3.50mm long x 10mm high	
Clover	38mm wide x 24mm long x 8mm high	

Now let's create the roof, we will group the structure we have already created and duplicate it, after that we will raise it up.

Roof 0.40mm high	
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We duplicate the lower structure in order to build the second floor and we adjust the size, because it is a little bit smaller than the previous one, we will do the same with the roof repeating the process.







Remember that we will not include the front part of the structure (third box) so we should ungroup it from the main shape.

MIDDLE FLOOR.

Duplicated structure	6.50mm high	
Duplicated roof	2mm de high	
Round roof	13mm wide x 3.50mm long x 10mm high	







Now, to create the roof of that structure, we duplicate it and we slightly raise it up.

Round roof	13.30mm wide x 3.40mm long x 10.30mm high	
Box	16mm wide x 9.50mm long x 9.50mm high.	
Round roof	16mm wide x 9.50mm long x 12.10mm high	

In order to intensify the curvature and volume of the front dome we are going to "erase" the front part of the clover.







Empty box	16.50mm wide x 7mm long x 8.70mm high.	
Cylinder	14.50mm wide x 15mm long x 5mm high	
Half sphere	14.50mm wide x 15mm long x 3.50mm high.	
Round roof	10mm wide x 1.50mm long x 7.50mm high.	







We duplicate the lateral round roof to create the roof with the same process.

Round roof	10.60mm wide x 1.40mm long x 7.80mm high.	
Empty round roof	8mm wide x 1mm de long x 6.85mm high	
Empty box	0.90mm wide x 0.50mm long x 3.50mm high	







Empty round Round roof: 0.90mm wide x 0.50mm long roof x 2.50mm high.	
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We align and group those two objects in order to create the windows inside the second-floor lateral arch.



We duplicate, move to the right, and lower the height to 4, without deselecting the shape, we duplicate and repeat to get another shape already scaled. We select both new pieces and we move it to the other side and, with the help of symmetry tool, we rotate the shapes as shown in the image.



Now we have to group the entire protrusion (last 3 steps) with the windows and create a single structure. Then we duplicate it and place it on the other side and we align them.







Our project should look like this:













