



How to build a Rose Window?

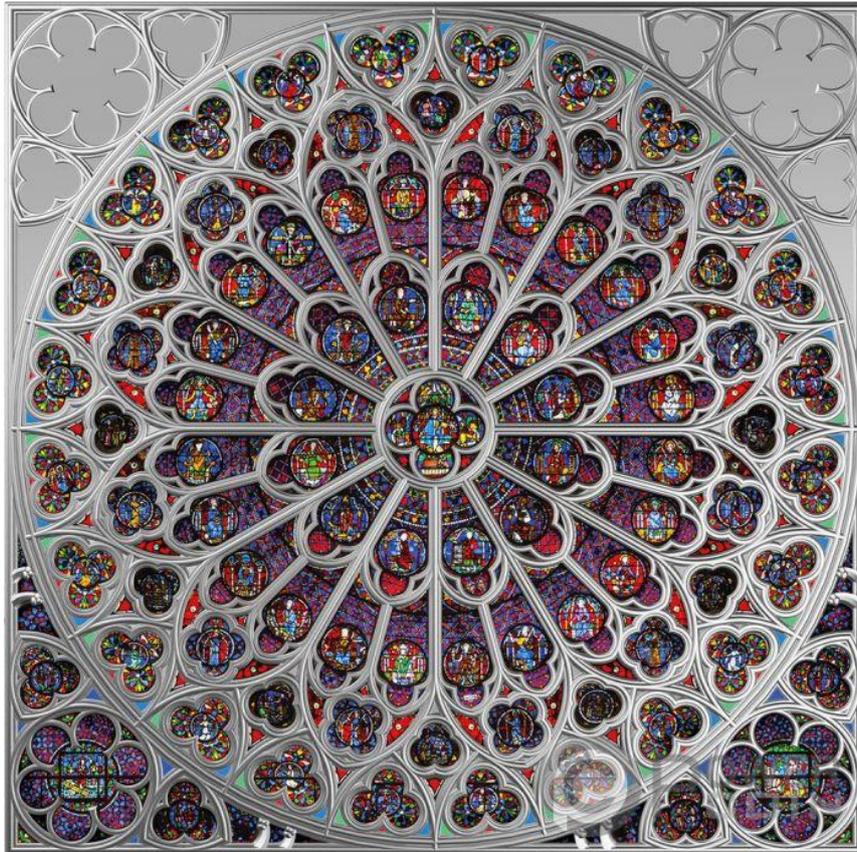


Photo from: <https://www.powercoin.it/es/oceania-pacifico-sur/4614-rose-window-of-notre-dame-glass-windows-collection-monedaplata-8-solomon-islands-2020.html>



Respective blueprint

How to Build a Rose Window

Description

This activity will introduce students to the rose window and teach them some historical context, as well as helping them understand the geometric complexity in the rose window's design and allowing them to put this knowledge into practice by drawing one of their own.



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Learning Objectives	<ul style="list-style-type: none">- Students will understand the complexity of the design of a rose window.- They will also understand the cultural context of this type of design and building.- They will obtain (and practice) knowledge about geometry.
Related curricular subject(s)	<ul style="list-style-type: none">- History- Design- Geometry- Mathematics

Prerequisites / preparatory actions for teachers

Educators should conduct some preliminary research on rose windows and other types of geometric designs that are related to specific cultures, such as Celtic or Islamic designs.

- Celtic designs: (Medlej, 2015a)

<https://design.tutsplus.com/tutorials/geometric-design-a-celtic-grid--cms-24560>

- Islamic designs: (Medlej, 2015c)

<https://design.tutsplus.com/tutorials/geometric-design-two-variations-on-an-islamic-tiling-pattern--cms-24237>

- Rose Window: (Medlej, 2015b)

<https://design.tutsplus.com/tutorials/geometric-design-the-north-rose-window-in-chartres--cms-24470>

<p>Prerequisites / preparatory actions for students</p>	<p>Students should know how to use a compass and know the basics of geometry.</p>
<p>Age of students</p>	<p>12 years or older</p>
<p>Duration</p>	<p>2 sessions of 2 hours each (3-4 hours total)</p>
<p>Level of difficulty</p>	<p>Medium – High (depending on the rose window design you choose)</p>

Step by step description of the tasks

Step 1. Introduce the cultural and historical context of the Rose Window

The first step of this exercise is to provide cultural and historical background on the rose window to help students understand their own cultural roots and common heritage with other cultures. This, in turn, helps contribute to students' knowledge and understanding of other countries and cultures in today's world. The aim here is to facilitate a

better understanding of our cultures and connections in the present, as there is nothing in the present that cannot be better understood through the past.

At the start of this lesson, present the following introductory information and “food for thought” to your students, as well as any other information you feel may be important to introduce the rose window to them.

- Much has been written about Gothic architecture, though one of the distinguishing elements of this type of architecture is the rose window. This is a geometrician's dream! Here, we want to focus on one of the most famous types of rose window, known as the north transept rose window. This is one of the most well-known rose windows, not only because of its design, but also because of its subject matter: the Glorification of the Virgin in Chartres Cathedral in Chartres, France.

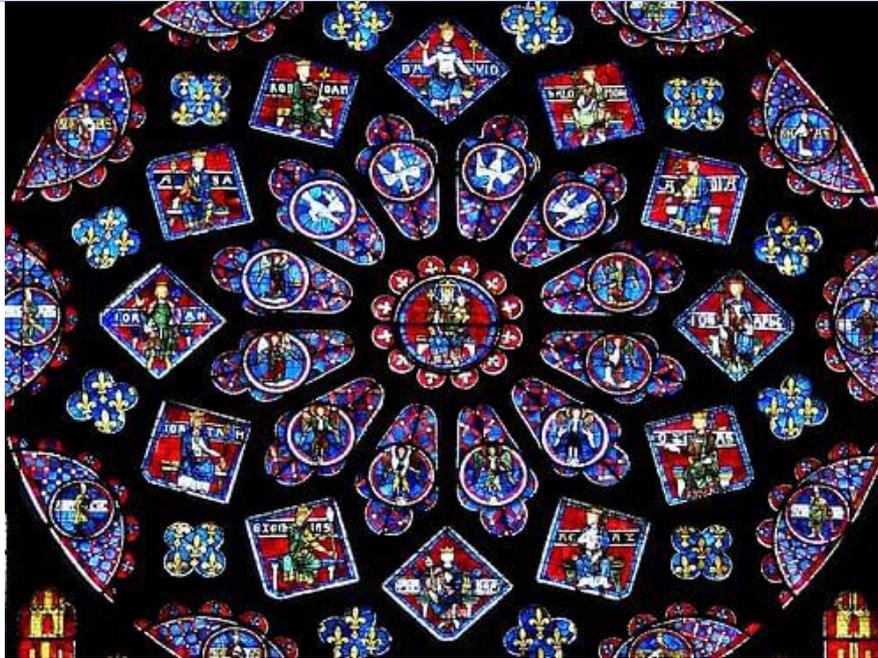


Photo from: <https://enthusiastical.wordpress.com/2013/04/22/chartres-cathedral-rose-window/>

- You may also choose one Rose Window from your city (if you have one) to illustrate a concept closer to home!
- In general terms, rose windows, which reached their peak in the Gothic cathedrals of France and Spain, can be found in various sizes in these structures, though the main examples were intended to invoke a vision of heaven and to bathe the worshipper in divine light. In the otherwise drab environment of the medieval city, there is no doubt that their beauty and luminous colours created an experience for the viewer that is nearly unimaginable in our image-saturated culture of today.



- Rose windows range from the simplest to the most complex of designs, and a whole course could be devoted to them!
- Rose windows are not just from the Middle Ages—they can also provide evidence of other historic and artistic movements throughout time! An interesting example of an alternative design for a rose window can be seen in the Crypt of the Sagrada Familia church in Barcelona. Here, we can see how architect Antoni Gaudí adapted the standard rose window design to incorporate natural motifs and other elements that were very typical of the Catalan Modernist (Art Nouveau) movement.



Photo from: <https://hu.pinterest.com/pin/30680841201832079/>

Modernism. Antonio Gaudi (1852-1926). Drawing. Rosassa Sactus, 1892.
Stained glass attributed to Eudald Amigo. Crypt of Sagrada Familia.
Unique original stained-glass windows. Barcelona, Spain.

Step 2. Choose the Rose Window

After introducing some historical and cultural context, you can choose the specific type of rose window you want to work within the next step.

The time needed for completing the drawing will depend on the level of difficulty of the rose window chosen.

You may choose to give students an example from a real-life rose window, or they can create their own designs freely, based on real-life examples.

Step 3. Draw the Rose Window

Distribute copies of the respective blueprint to each student (or in groups of 2 students maximum). Now, students should follow all the steps in the blueprint to draw their own rose windows.

Assessment activities

1. Have students draw 2-D shapes using given dimensions and angles.
2. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.
3. Illustrate and name parts of circles and know the relationship between diameter and radius.
4. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite.

References

Medlej, J. (2015a). Geometric Design: A Celtic Grid. Envatotuts+.
Retrieved from: <https://design.tutsplus.com/tutorials/geometric-design-a-celtic-grid--cms-24560>

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