

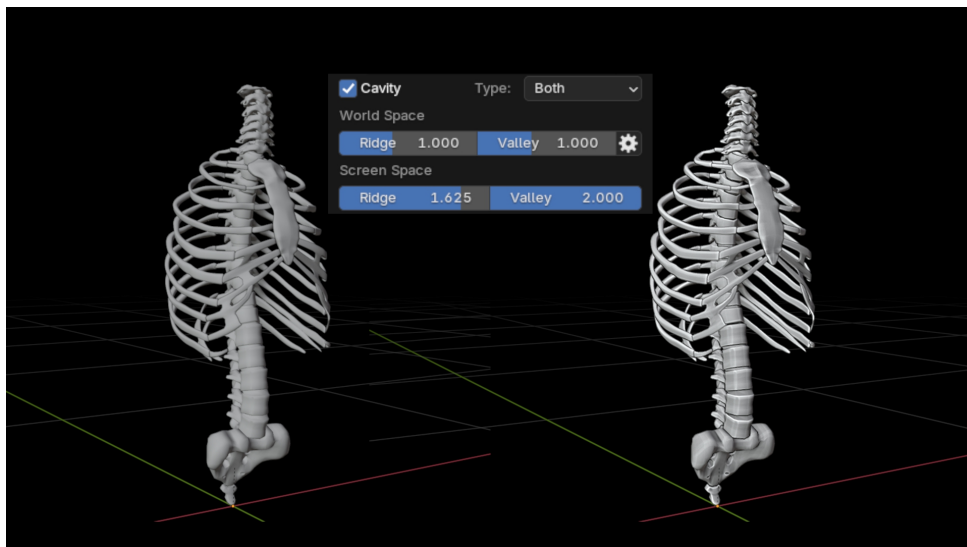
How to Highlight Edges in the 3D Viewport with the Cavity Option | Blender Interface BASICS

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Hello everyone! In this brief tutorial on Blender's interface basics, we will see how to highlight edges, or more precisely, the ridges and valleys, of our 3D models in the 3D Viewport.

The tutorial was recorded using Blender version 4.3, but this option has been available for several versions of the software and will likely remain available in the future.

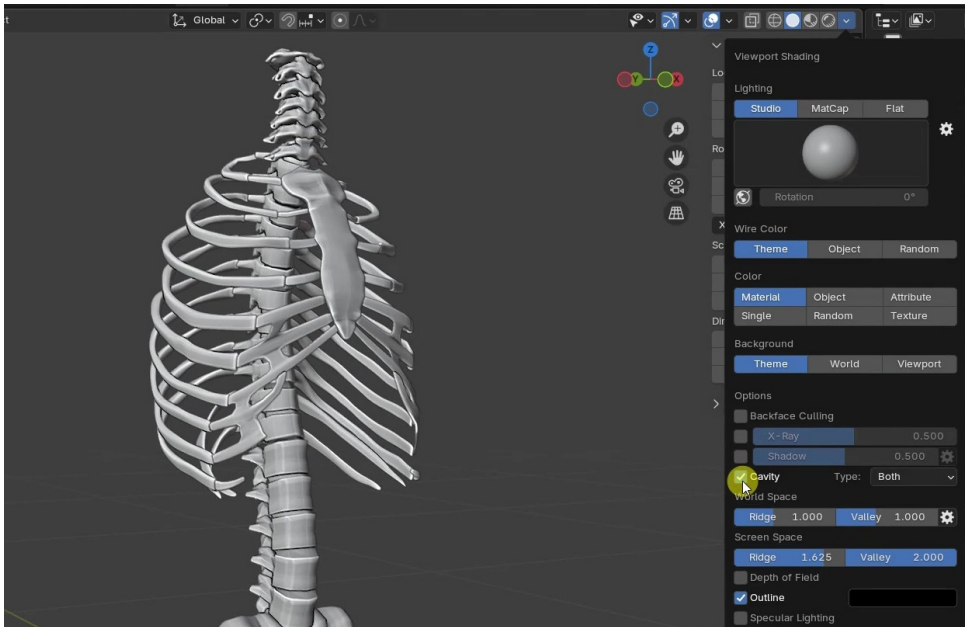
The option to enable is called **Cavity**, and it can be found in the **Viewport Shading** menu located in the header of a 3D Viewport when the selected display mode is **Solid**.

This option does not affect rendering but is very useful for better examining the geometric features of a model, especially in complex ones.

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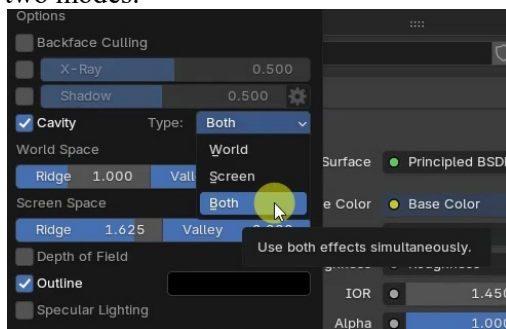
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Additionally, **Cavity** gives the model a more visually appealing look while working, making it, in my opinion, more enjoyable to showcase in video tutorials.

When the **Cavity** checkbox is selected, Blender provides a menu that allows us to choose between the **Screen**, **World**, and **Both** modes, with **Both** being a combination of the two modes.



The two modes refer to the space in which the cavities, and therefore the shading effects, are calculated. Specifically, in **World** mode, ridges and valleys are

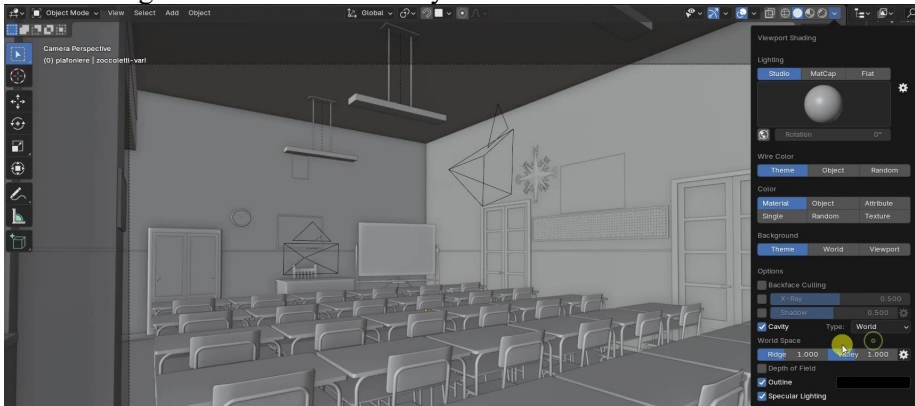
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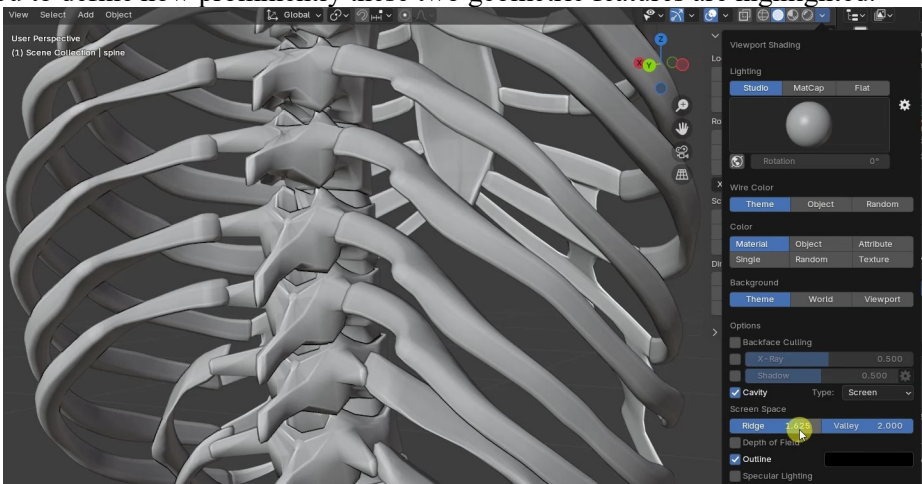
computed based on the dimensions of the objects in the scene. In **Screen** mode, the angles formed by the geometry are considered instead.

For these reasons, **Screen** mode is better suited for detailed features, while **World** mode is more appropriate for large objects or scenes. That said, we'll return to the specific settings of **World** mode shortly.



According to Blender's manual, **World** mode is slower but more accurate than **Screen** mode, which is faster but does not account for the actual size of ridges and valleys. In general, **Both** mode is a solid choice.

Additionally, for both modes, there are **Ridge** and **Valley** parameters, which allow you to define how prominently these two geometric features are highlighted.

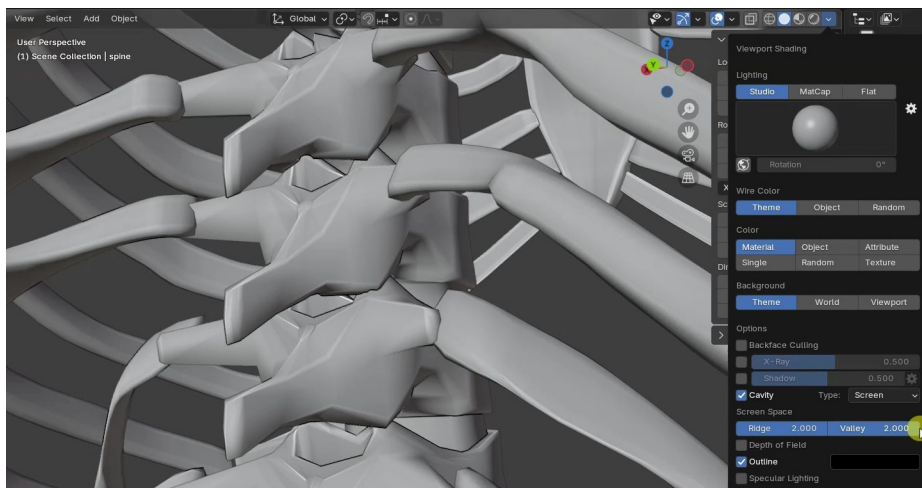


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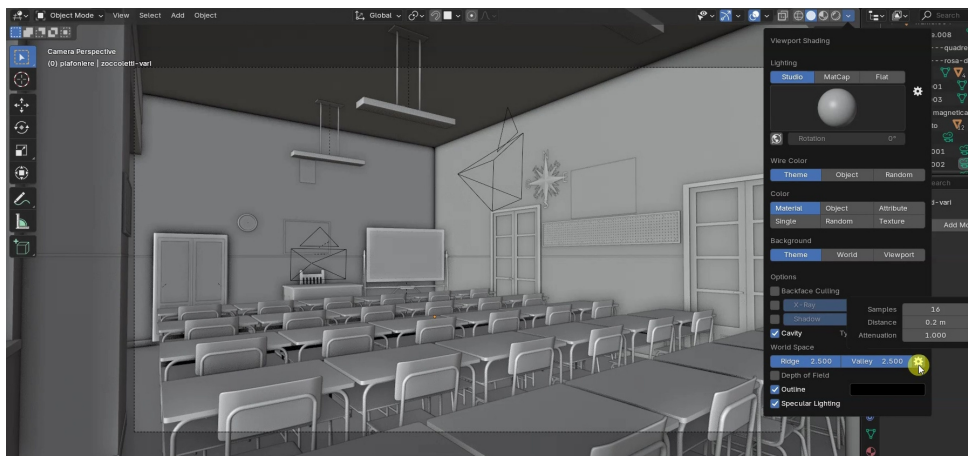
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Increasing the values of these two parameters results in opposing shading effects: raising the **Ridge** value makes the ridges brighter, while raising the **Valley** value makes the valleys darker.



When **World** mode is active, additional parameters become available: **Samples**, **Distance**, and **Attenuation**. These parameters are provided because in **World** mode, the effect also depends on the distance between objects.

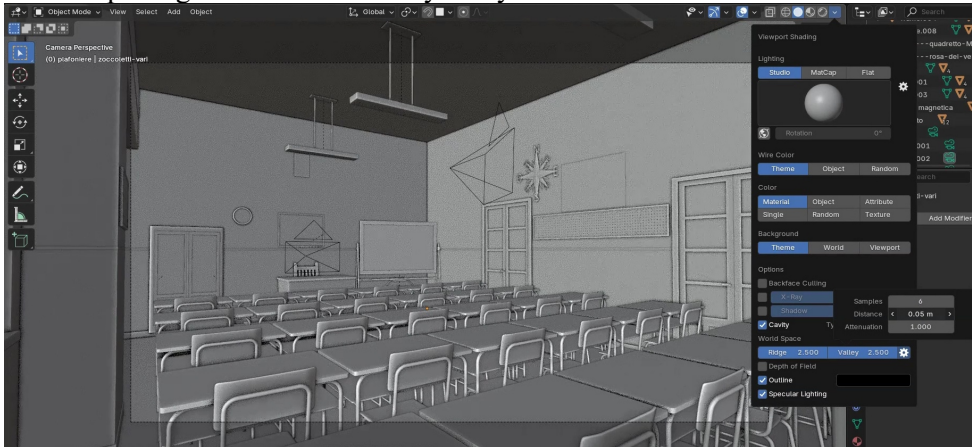


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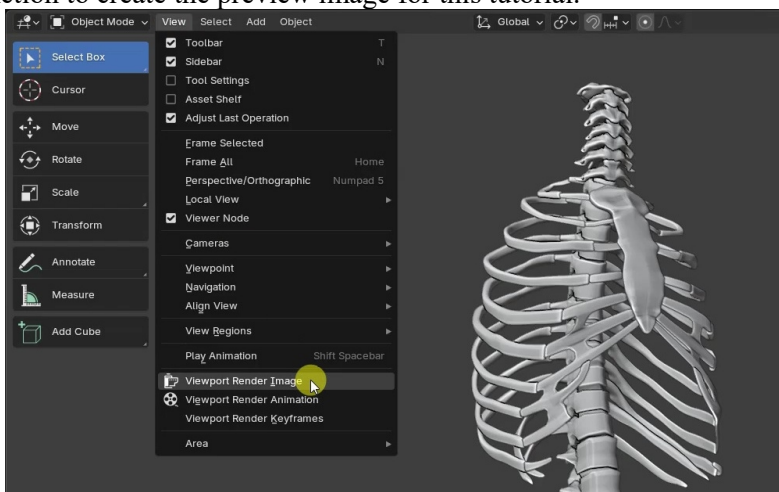
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The **Samples** parameter allows you to adjust the quality of the effect. Since **World** mode is slower than **Screen** mode, it might be helpful to set a lower value to avoid putting too much strain on your system.



As I mentioned earlier, this shading option is visible in **Solid** mode, not in rendering. However, remember that you can save the 3D view as an image by clicking **Viewport Render Image** in the **View** menu of the 3D Viewport. I used this function to create the preview image for this tutorial.



Well, that's all for this very short video on the **Cavity** option! I hope you found it helpful. See you soon!