

Introduction

Create a model of a rocket using Blender.

What you will make

Here is how your finished piece will look:



What you will need

Hardware

- A desktop or laptop computer capable of running the Blender software

Software

- [Blender](#) (v2.73 or newer)

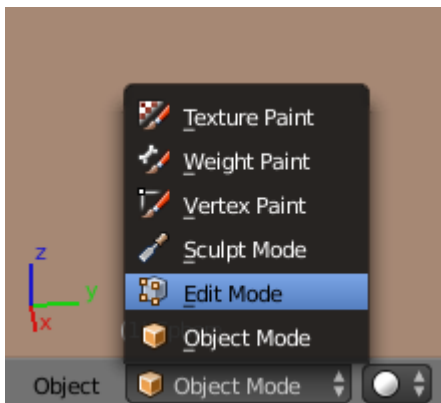
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Step 1: Base of the rocket

✔ Activity Checklist

- ☐ Open Blender and exit the splash screen.
- ☐ Start by selecting the cube, then press x to delete it.
- ☐ Go to the Toolbox, and click on the **Create** tab. Add a cylinder.
We'll be creating the rocket from this cylinder. The cylinder will be the bottom of the rocket, and we'll add to the top of it to build up the rocket.
- ☐ Switch to **Edit Mode** using the menu at the bottom.

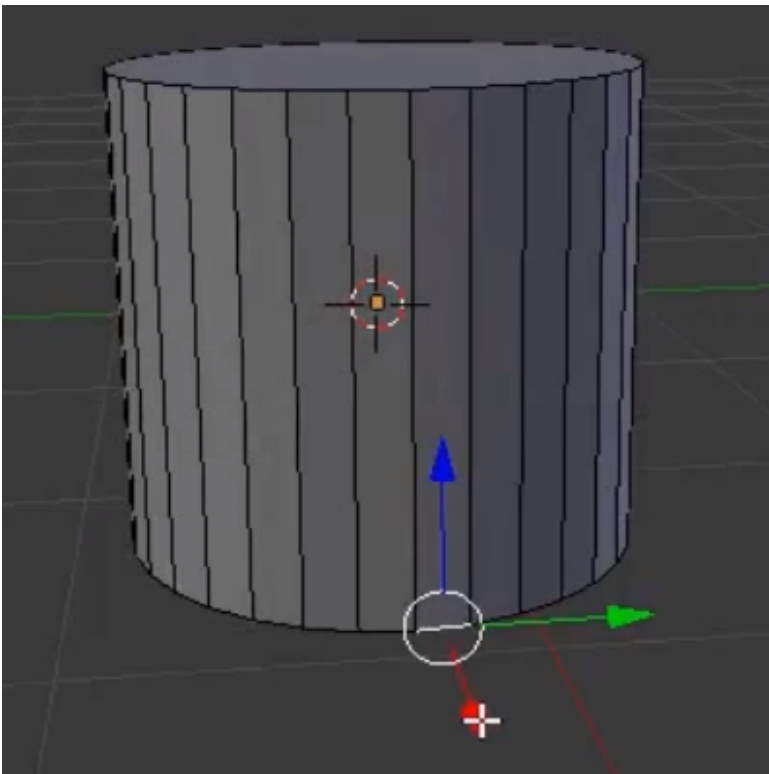


Let's create the fins that stabilize the rocket as it flies.

- ☐ Click on **Edge select** in the lower menu.

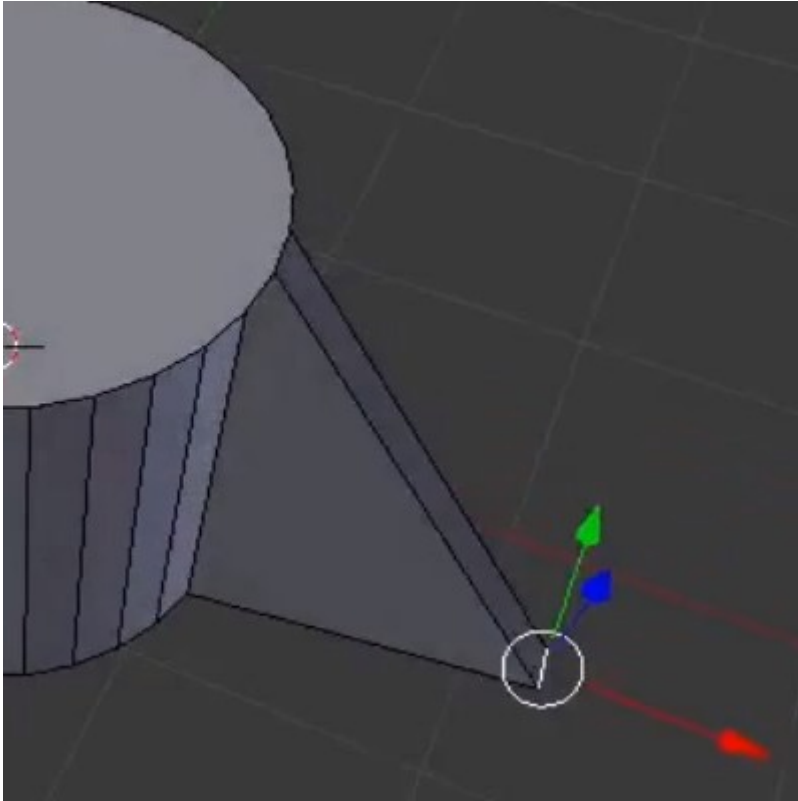


- ☐ Right-click an edge at the base of the cylinder to select it.

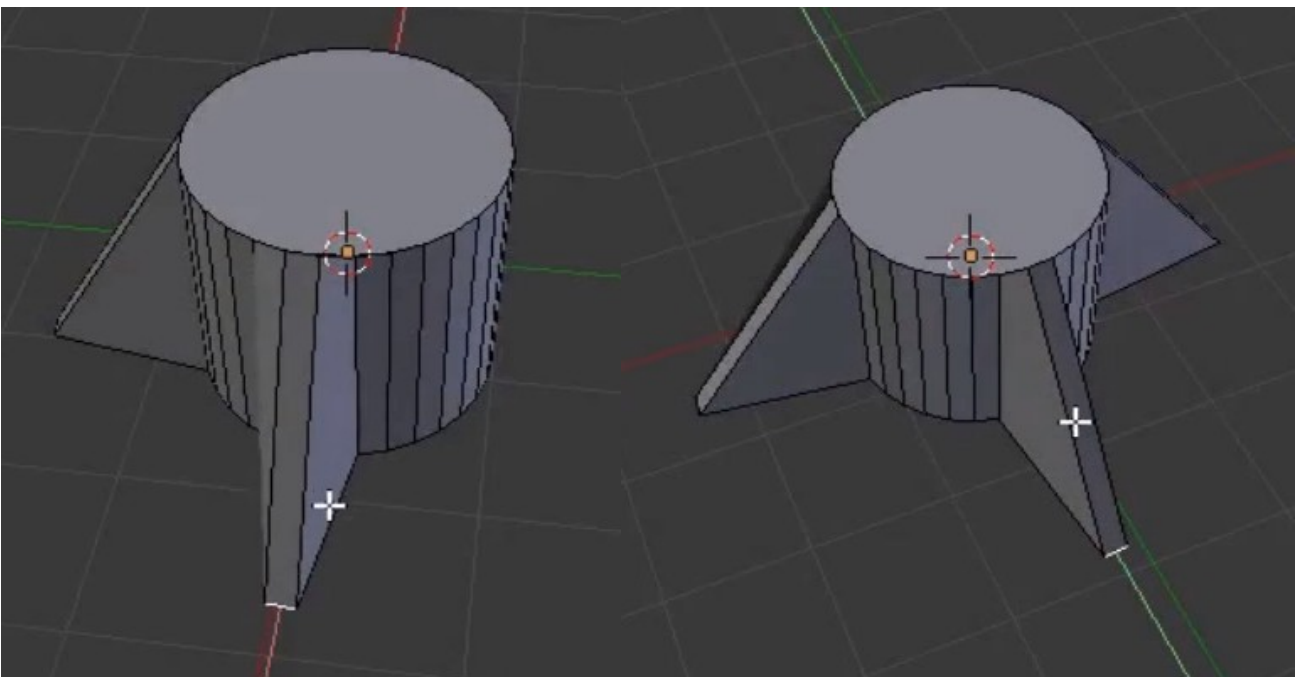




Click and drag the edge out using the coloured arrows to create a fin.



Create four fins.



Now you have the base of your rocket!

Step 2: Body of the rocket

Now let's create the body of the rocket.

✓ Activity Checklist

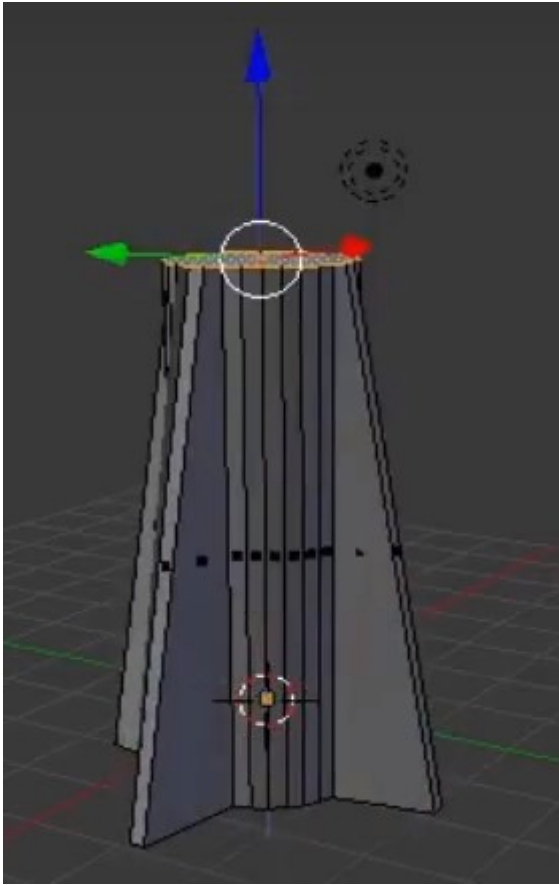


Switch to the **Face select** tool.



Right-click to select the top face of the cylinder.

If you pull it up, it looks a bit strange. Everything will move up, and that's not what you want.

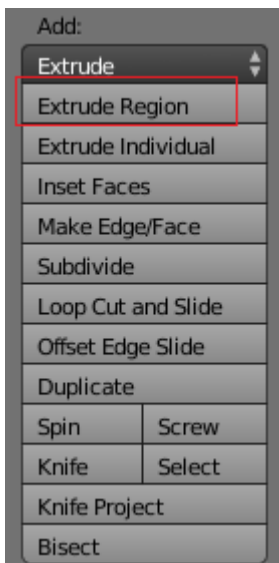


You can press **CTRL + Z** to undo any changes you made.

Instead, we will extrude this face.

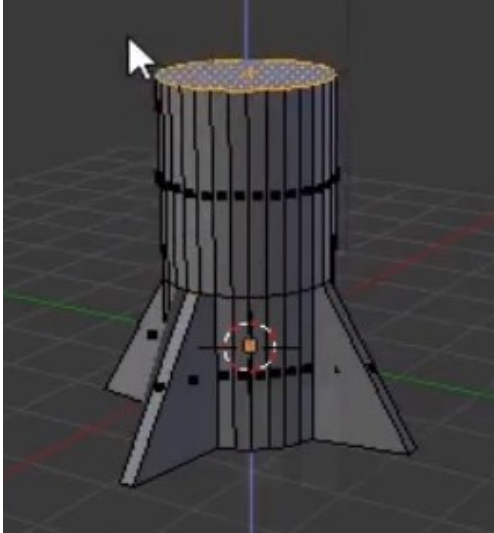


Go to the Toolbox, select the **Tools** tab, then select **Extrude region**.

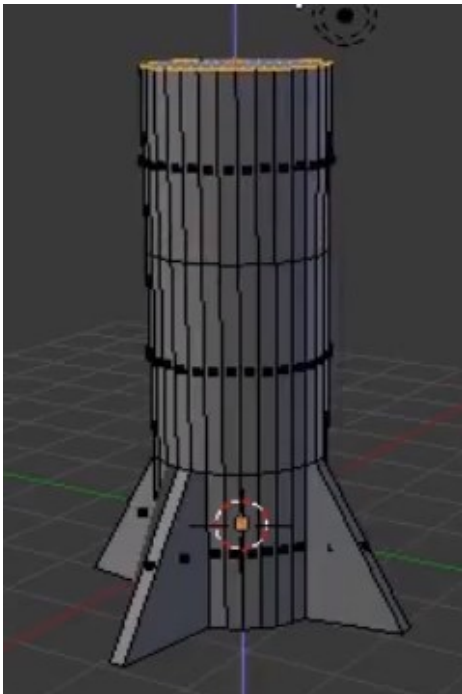




Pull the section up to create a taller rocket, then click when you are happy.



Extrude the same face once more to form the basis of the nose cone. Either select **Extrude region** again from the menu, or if you prefer, use the shortcut key **E**.



Step 3: Nose cone

The nose cone should come to a point. To do this you can use the resize tool.

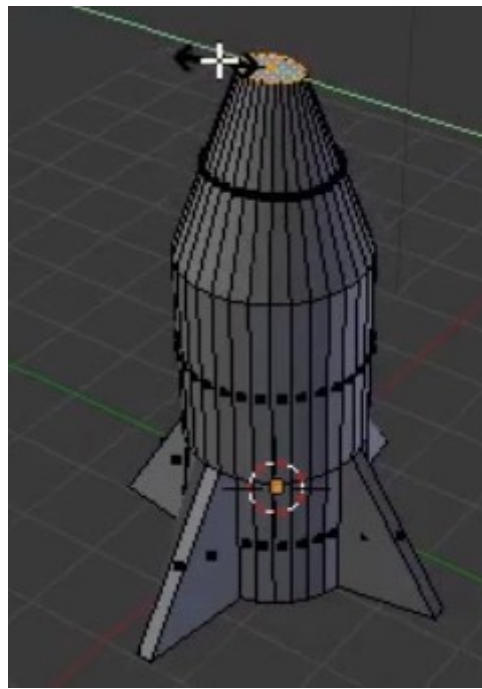
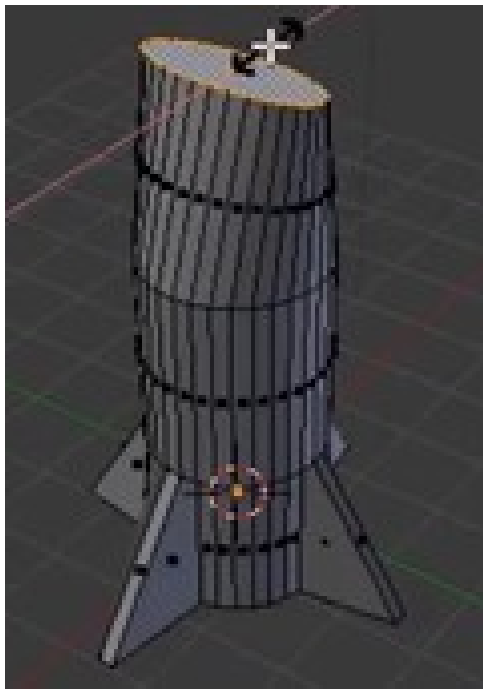
✓ Activity Checklist



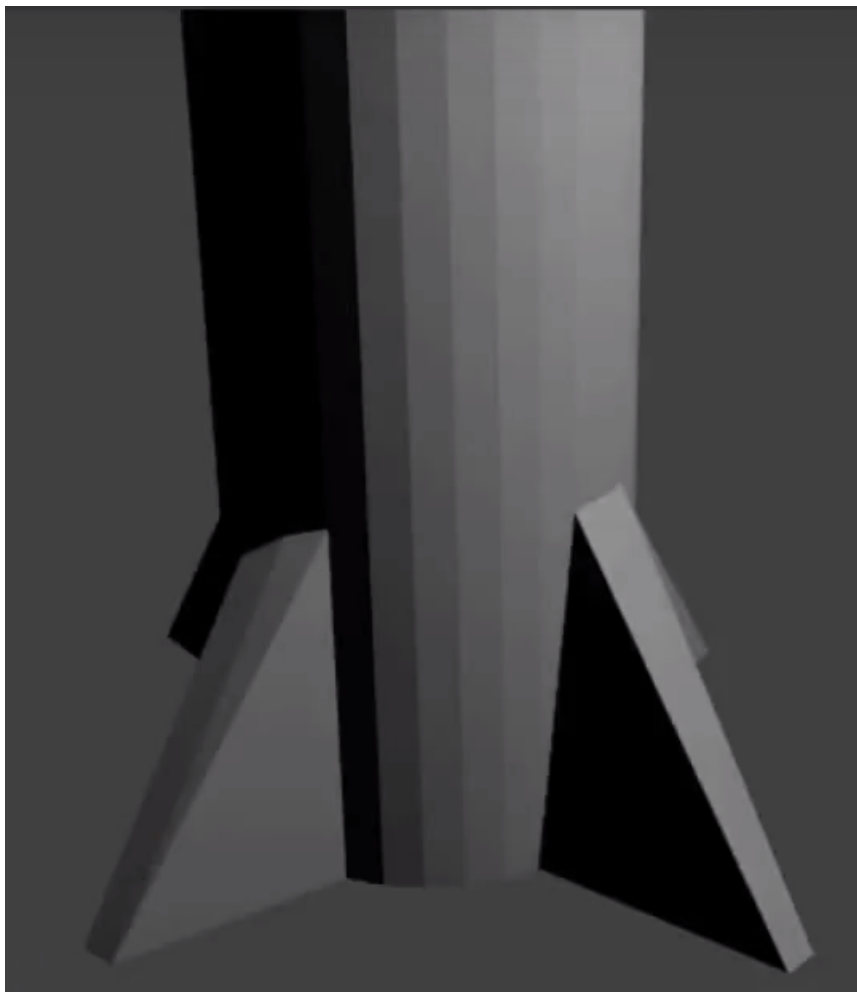
Select the **cube end** tool.



Resize the face using the red and green handles, turning it into more of a nose cone shape.



Render the image by pressing F12 (FN + F12 if you're using a Mac) and see what the rocket looks like.

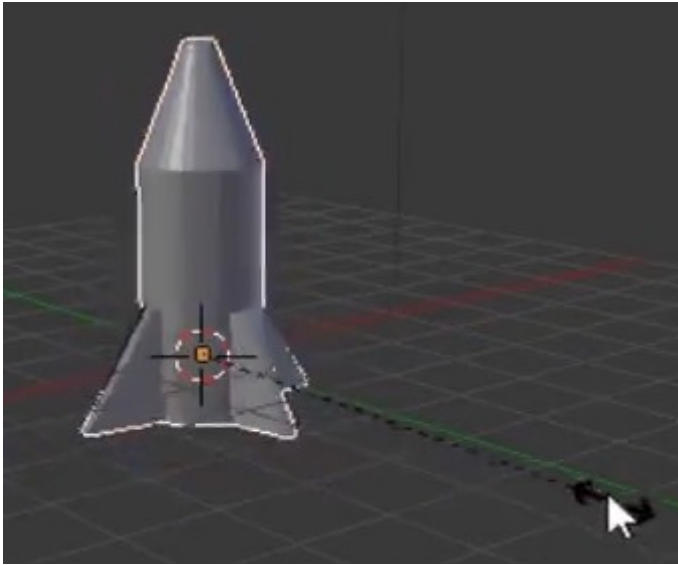


It might look a bit big, but you can resize the whole rocket.



Press esc to exit the render view.

- ☐ Switch back to **Object Mode** using the menu at the bottom.
- ☐ Press the s key to resize, then shrink the rocket. Click when you are happy with the size.



- ☐ Render again by pressing F12 (or FN + F12) to confirm the rocket has the right size.



Step 4: Colour the rocket

First we will give the rocket a basic blue colour.

✔ Activity Checklist

- ☐ Select the rocket.
- ☐ Go to the **Material** tab on the right menu panel.





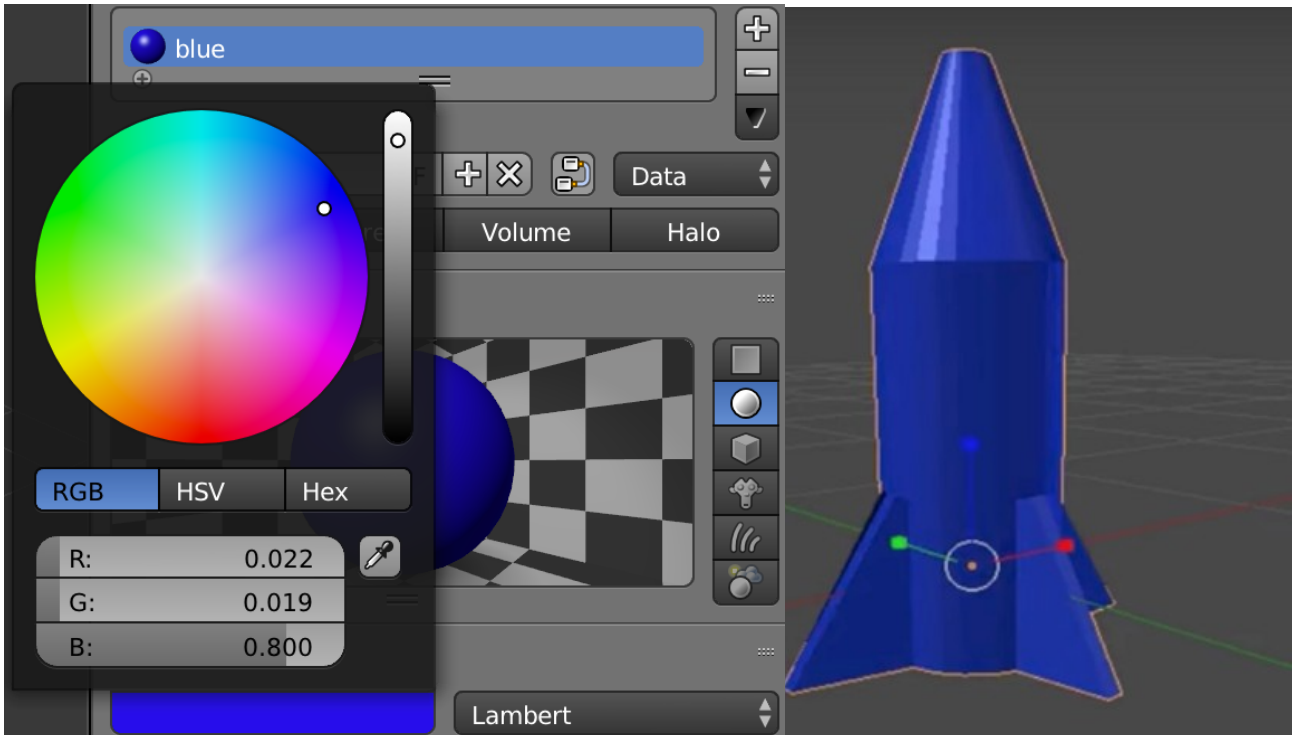
Add a new material by clicking **New**.



Call the material `blue`.



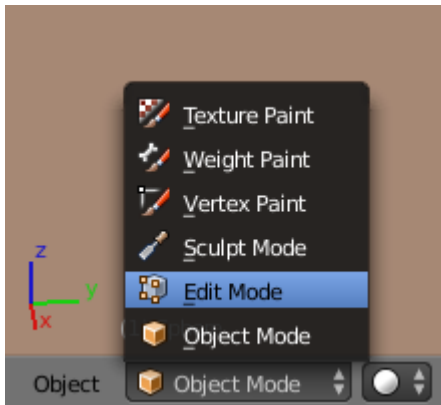
Select a blue color from the **Diffuse** menu to colour your rocket blue.



Step 5: Add stripes

✓ Activity Checklist

- ☐ Make sure the rocket is selected, then select **Edit Mode** from the lower menu. If you prefer, you can use the **Tab** key as a shortcut.

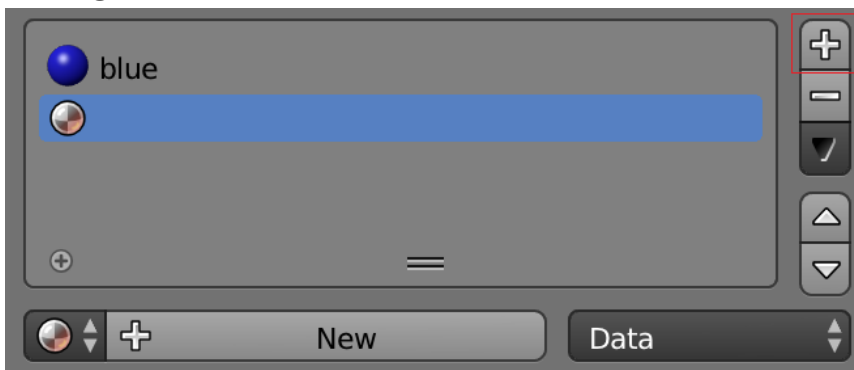


- ☐ Click on the **Face select** tool from the lower menu.

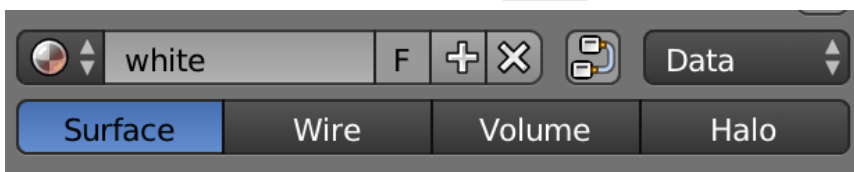


Now we will add a new material for the stripes.

- ☐ Go to the **Material** tab on the right menu panel, and add another new material by clicking the **+** icon.

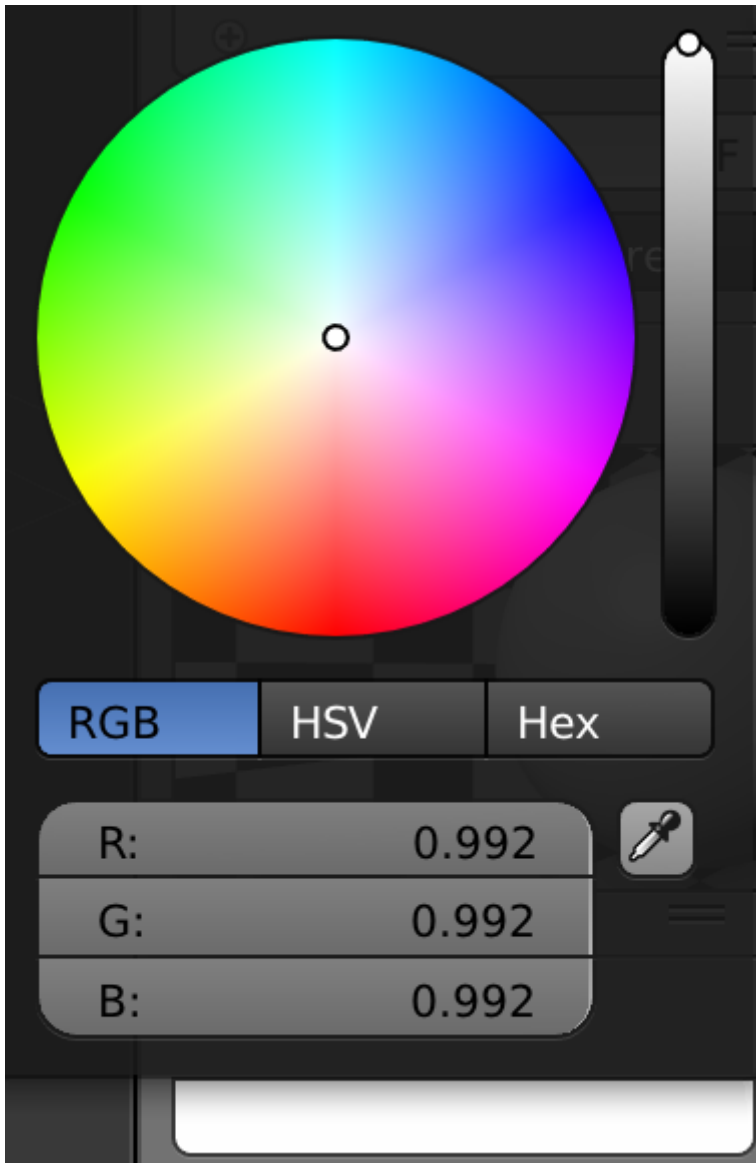


- ☐ Click on **New** and call the material **white**.





Select a white colour for the **Diffuse** menu.



Now you can add this colour to the faces of the rocket.



Right-click to select a face on the rocket that you want to colour white.

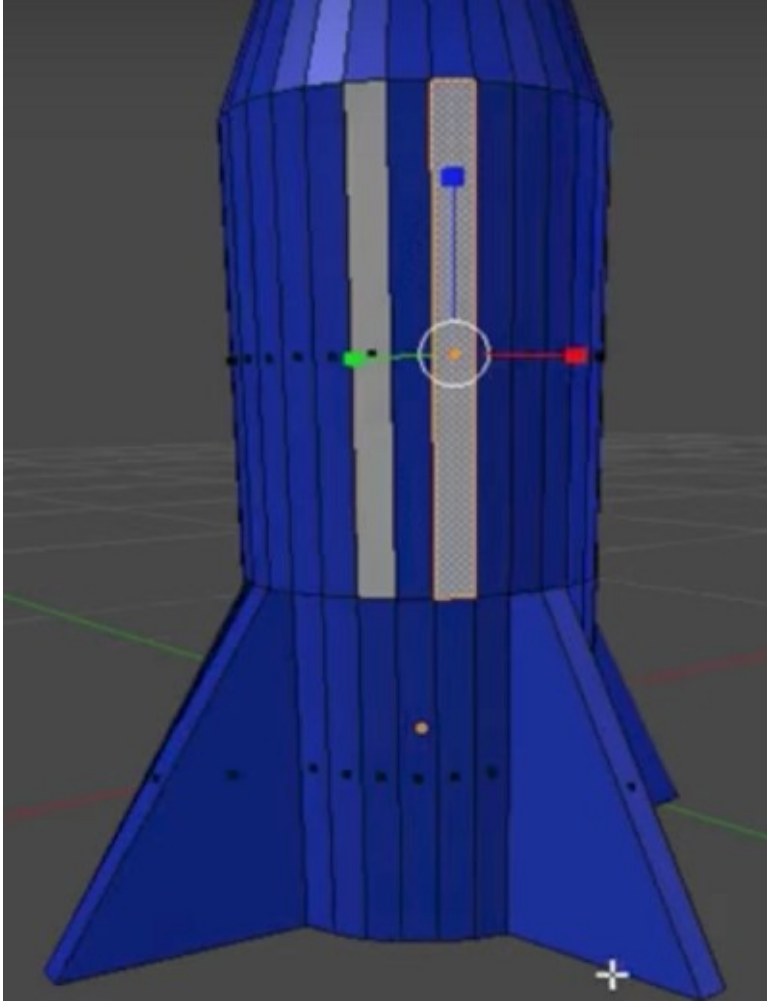


Click on the white material, then click on the **Assign** button to colour the face white.



Now select the next face to be coloured and give it the white colour by repeating the previous steps. You can select multiple faces at once by selecting a face and

then holding **shift** while selecting the other faces.



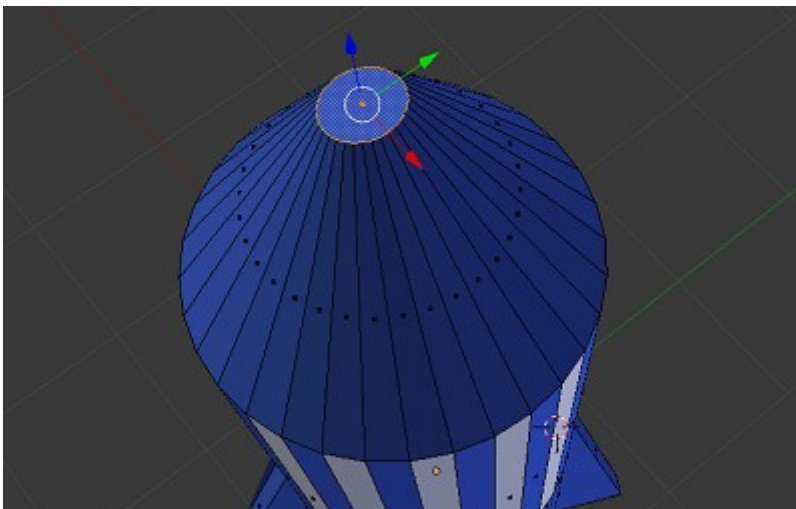
- ☐ Render your rocket to see what it looks like.

Step 6: Red nose

Let's colour the nose red.

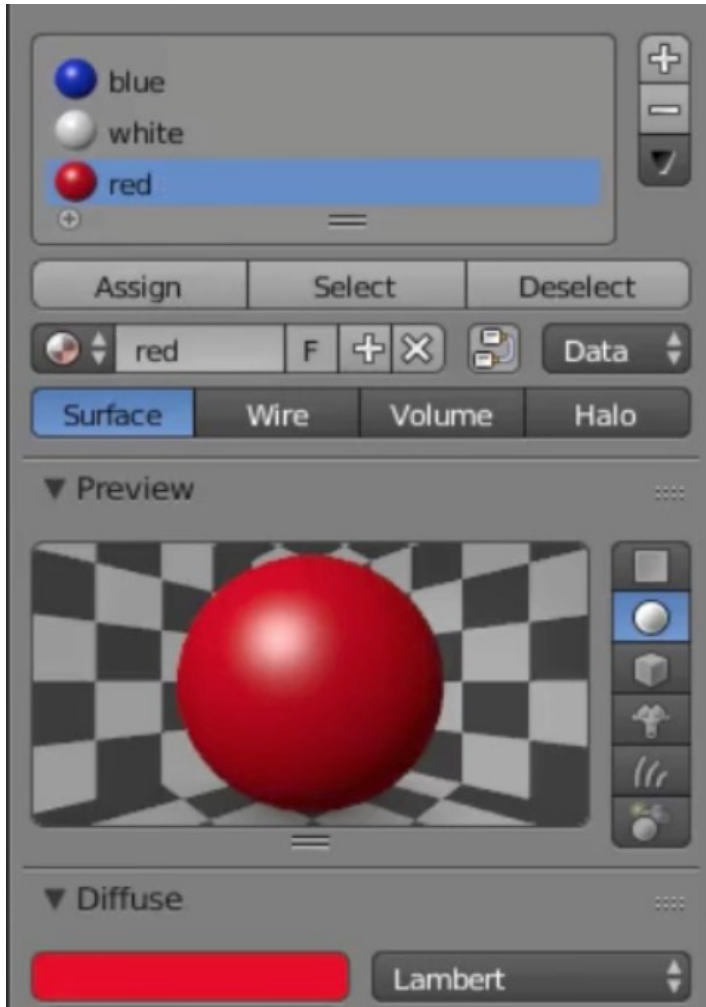
✔ Activity Checklist

- ☐ Right-click to select the face of the nose.





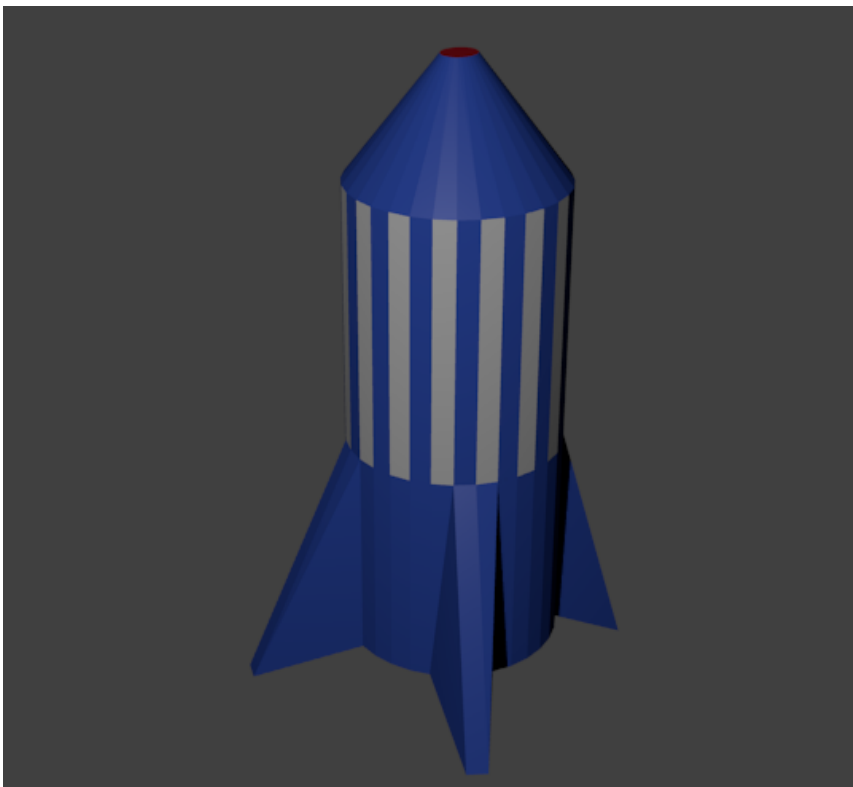
Add a new material called **red** and select a red colour for the **Diffuse** menu.



Assign the red material to the nose.

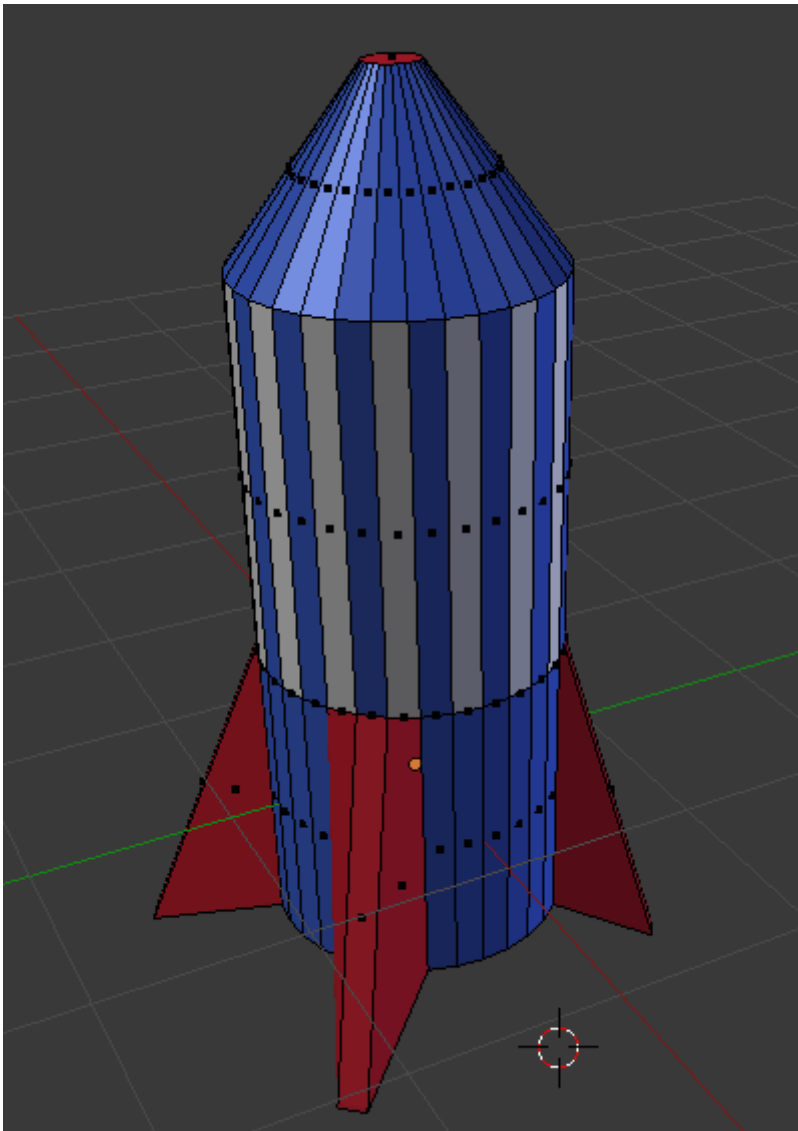


Render to see your blue rocket with white stripes and a red nose.



Challenge: more colour

- Can you add more colours to your rocket? Perhaps you could make the fins red?



- Can you add another new material for a different colour?