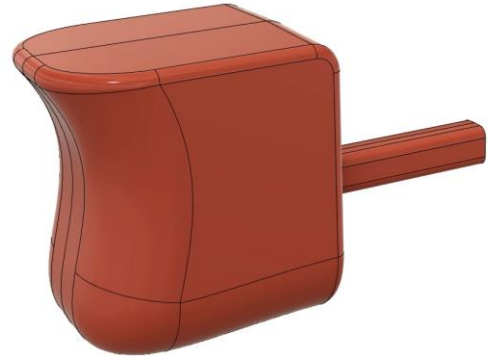


Manage physical materials and appearances

In this module, you'll explore ways to change a model's material and appearance.

Learning objectives:

- Apply a physical material.
- Apply an appearance.



The completed exercise

1. Continue with the *Trigger Model.f3d* file from the previous module.



Figure 1. Continue with the file from the previous module

2. Fusion 360's physical materials can be applied to the design's top level, to individual components, or to individual bodies. Right-click the Trigger component and choose Physical Material from the menu.

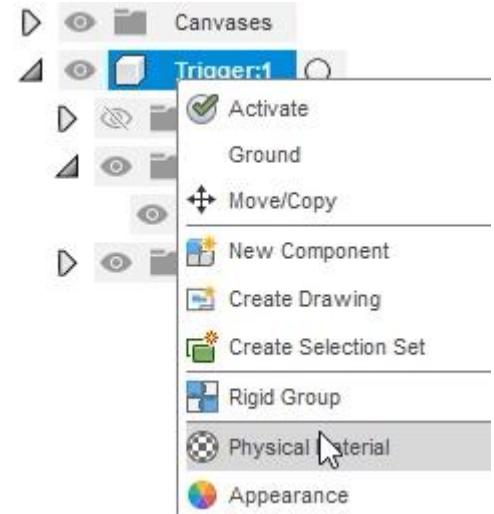


Figure 2. Open the Physical Material tool

3. In the dialog's Library section, expand the Plastic folder and locate the ABS Plastic material.

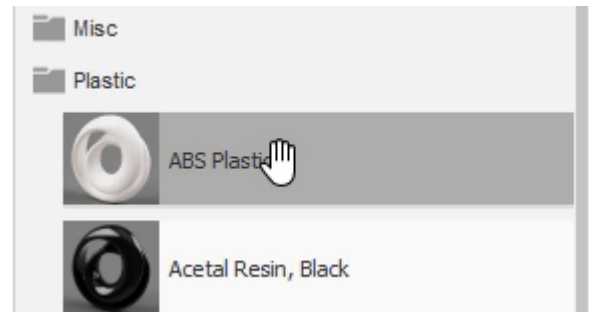


Figure 3. Locate the ABS Plastic material

4. Drag and drop the ABS Plastic's swatch onto the Trigger Component in the Canvas area or in the Browser.



Figure 4. Apply the material

5. Notice that the body changes colors because the ABS Plastic material has an appearance associated with it.

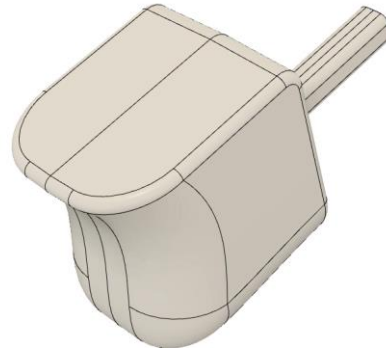


Figure 5. Inspect the result

6. Right-click the ABS Plastic material in the dialog's In This Design section, then choose Edit from the menu.

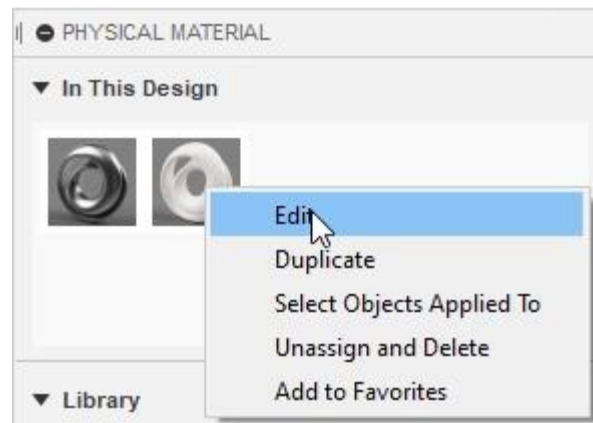


Figure 6. Edit a physical material

7. Click Advanced in the Flyout dialog.

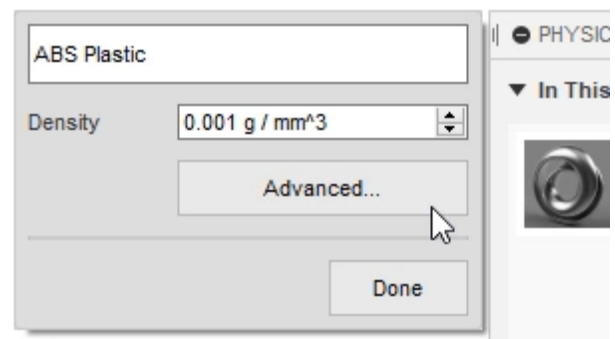


Figure 7. Open the advanced settings

8. Many of the material's appearance characteristics can be edited in the Appearance tab. Inspect all the options and click Cancel after you finish. Close the Physical Material dialog.

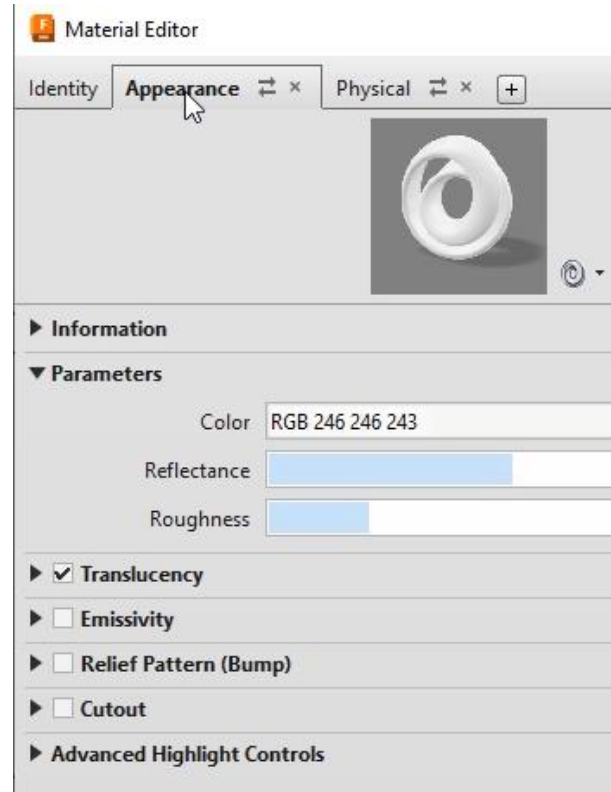


Figure 8. Inspect the options for customizing the material's appearance

9. Appearances can override a physical material's appearance characteristics. Right-click the Trigger component and choose Appearance from the menu.

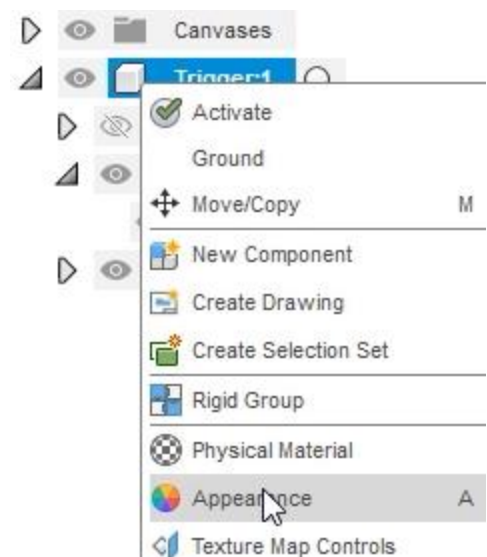


Figure 9. Open the Appearance tool

10. In the Appearance dialog's Library section, open the Plastic folder, then open the Translucent folder. Locate the Plastic - Translucent Glossy (Red) appearance.



Figure 10. Locate a new appearance

11. Drag and drop the swatch onto the Trigger component.



Figure 11. Apply the new appearance

12. Notice the trigger's appearance changes. Close the Appearance dialog.

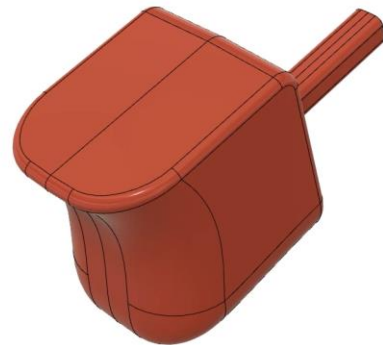


Figure 12. Inspect the result

13. In the Browser, right-click the Trigger component and choose Properties from the menu.

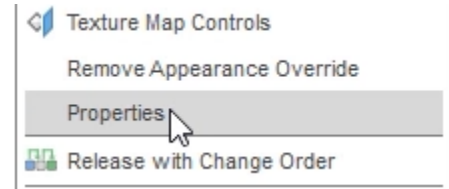


Figure 13. Open the Properties tool

14. Notice that the component's material is still listed as ABS Plastic even though you change the appearance to translucent red plastic.

| General | |
|---------------|-------------|
| Part Number | Trigger |
| Part Name | Trigger |
| Description | |
| Material Name | ABS Plastic |

Figure 14. Inspect the material properties

15. Expand the dialog's Physical section and inspect the component's properties. Close the dialog after you finish.

| Physical | |
|----------|---------------------------|
| Mass | 11.98 g |
| Volume | 11301.636 mm ³ |
| Density | 0.001 g / mm ³ |
| Area | 3050.601 mm ² |

Figure 15. Inspect the physical properties

16. Press A to open the Appearance dialog and activate the Faces option.

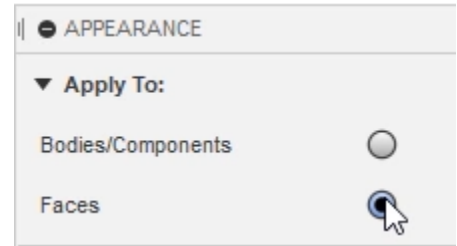


Figure 16. Open the Appearance dialog

17. Locate the Plastic - Translucent Matte (White) material, then drag and drop the swatch onto one of the model's faces. Notice that only the selected face has the new appearance. Close the dialog after you finish adding the appearance to faces.

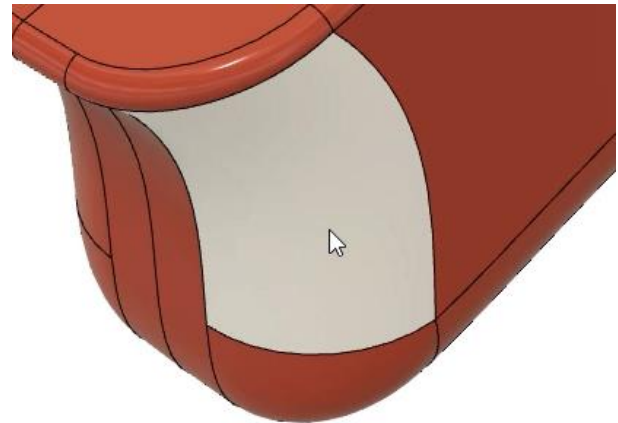


Figure 17. Apply a new appearance to a face

18. Use the Toolbar's Change Workspace to navigate to the Render workspace.

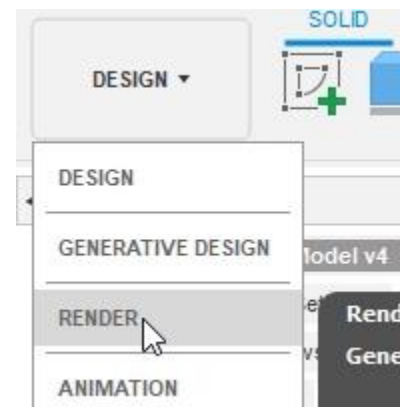


Figure 18. Navigate to the Render workspace

19. Inspect the different colored faces.

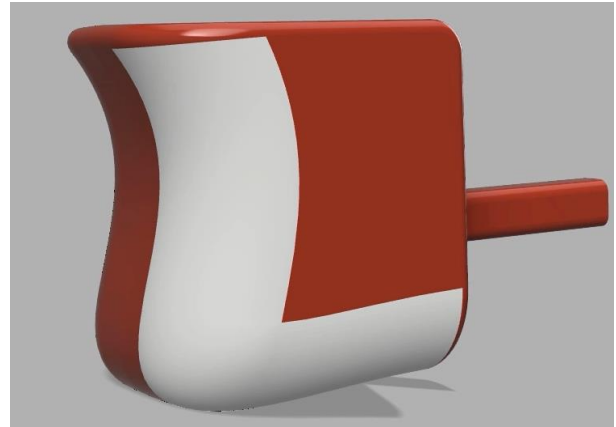


Figure 19. Inspect the different colored faces

20. Click In-Canvas Render> In-canvas Render.



Figure 20. Open the In-canvas Render tool

21. Wait a few moments and note that the render's quality improves. Notice that the red material is glossy and the white material is matte.

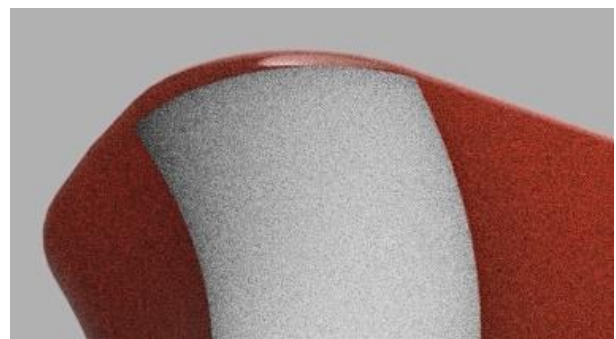


Figure 21. Inspect the render

- 22.** Stop the render by clicking In-Canvas Render> In-canvas Render Stop.



Figure 22. Stop the render

- 23.** Use the Toolbar to return to the Design workspace.

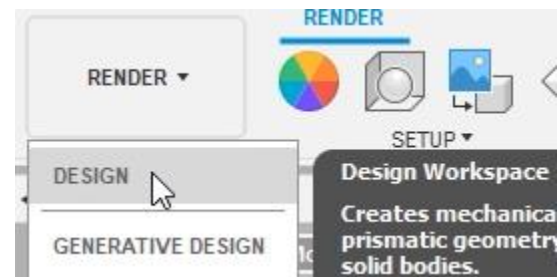


Figure 23. Return to the Design workspace

- 24.** Appearances can be removed from a model after they are applied; press A to open the Appearance dialog. Right-click the Plastic - Translucent Matte (White) material and choose Unassign and Delete from the menu.

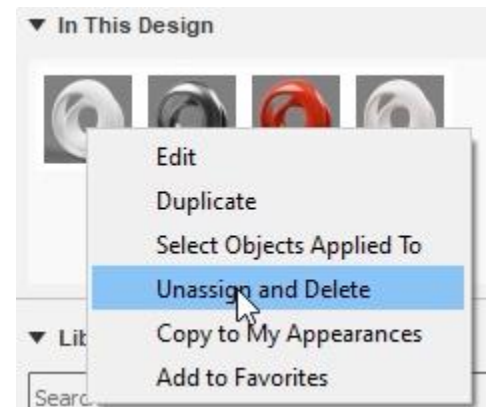


Figure 24. Unassign an appearance

25. The appearance is removed from the Trigger component and the swatch is deleted from the dialog's In This Design section. Close the Appearance dialog, save the file, then continue to the next module.

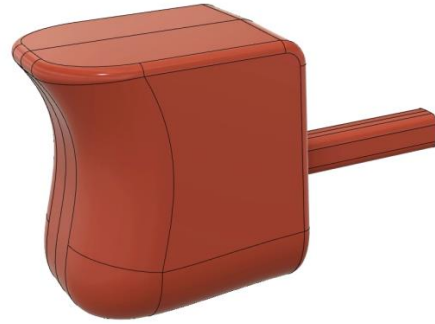


Figure 25. Inspect the result