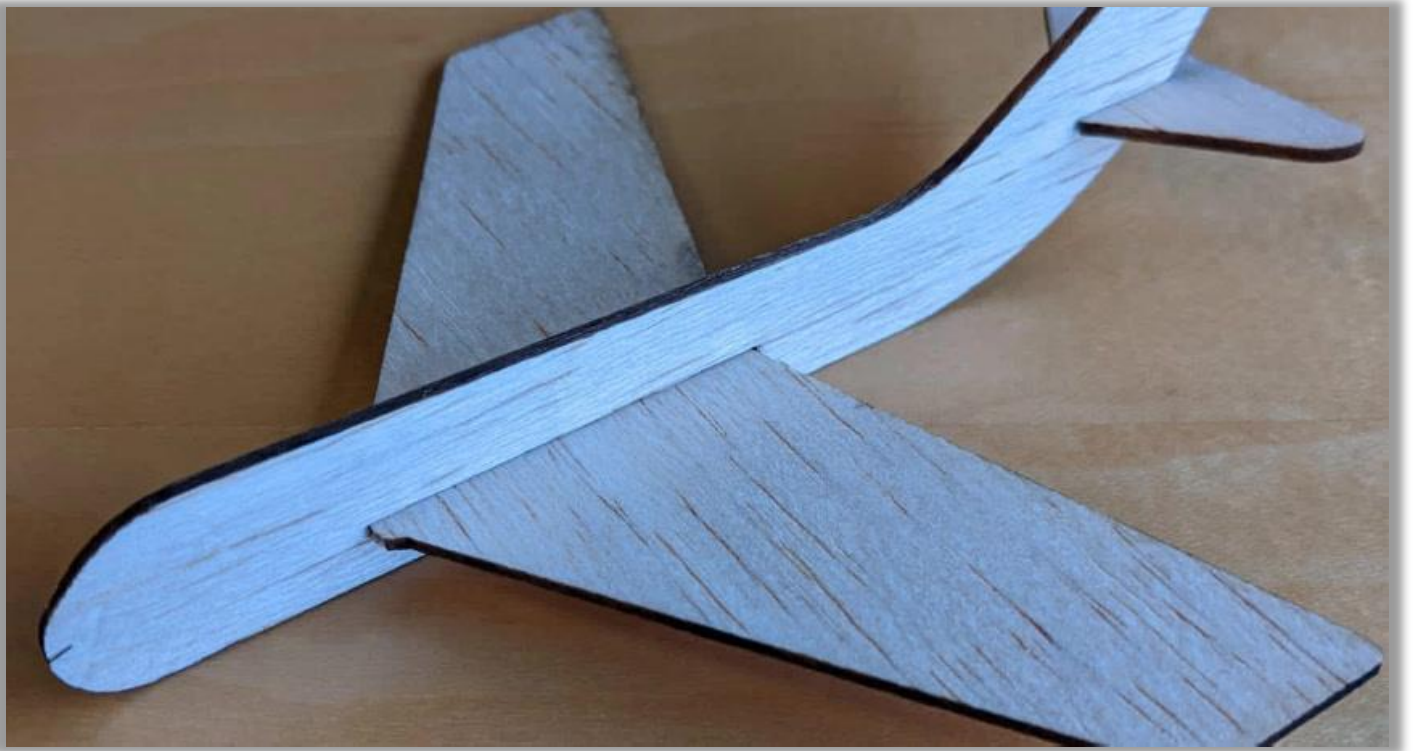
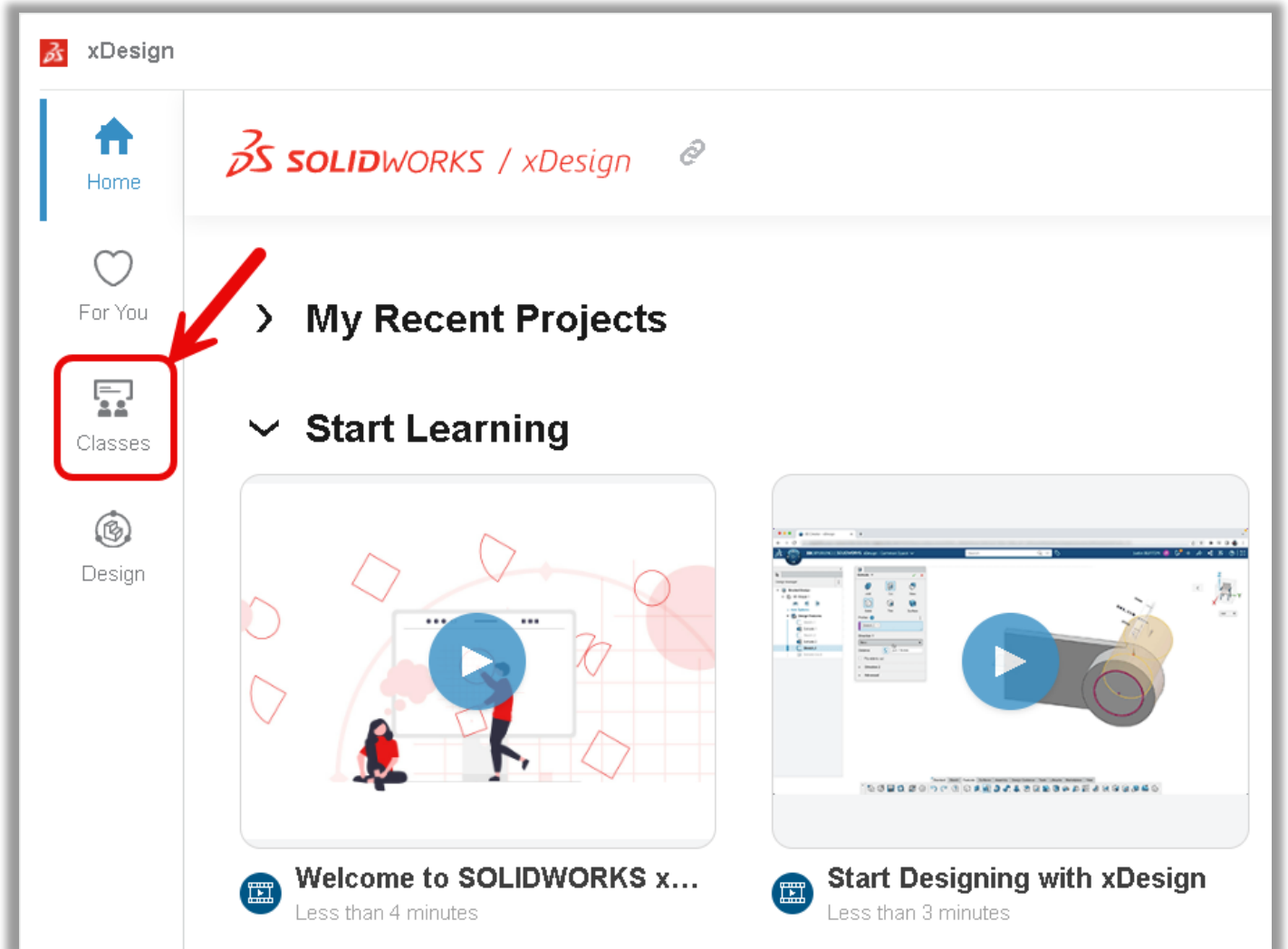


Design and fabricate your own custom glider.

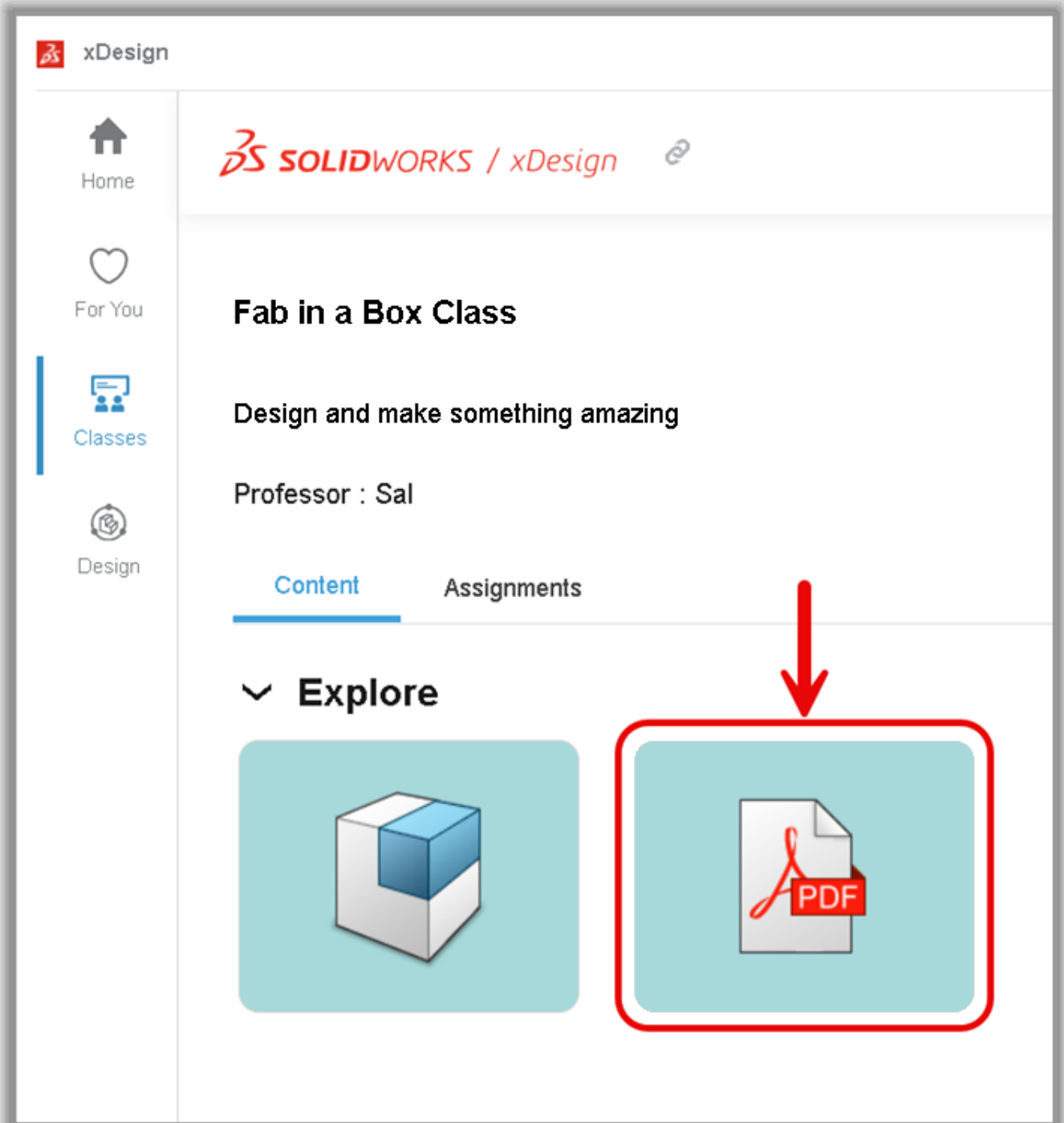
Test its flight, then improve it by adjusting the shape of its wings, tail, or body, or adding a nose weight.



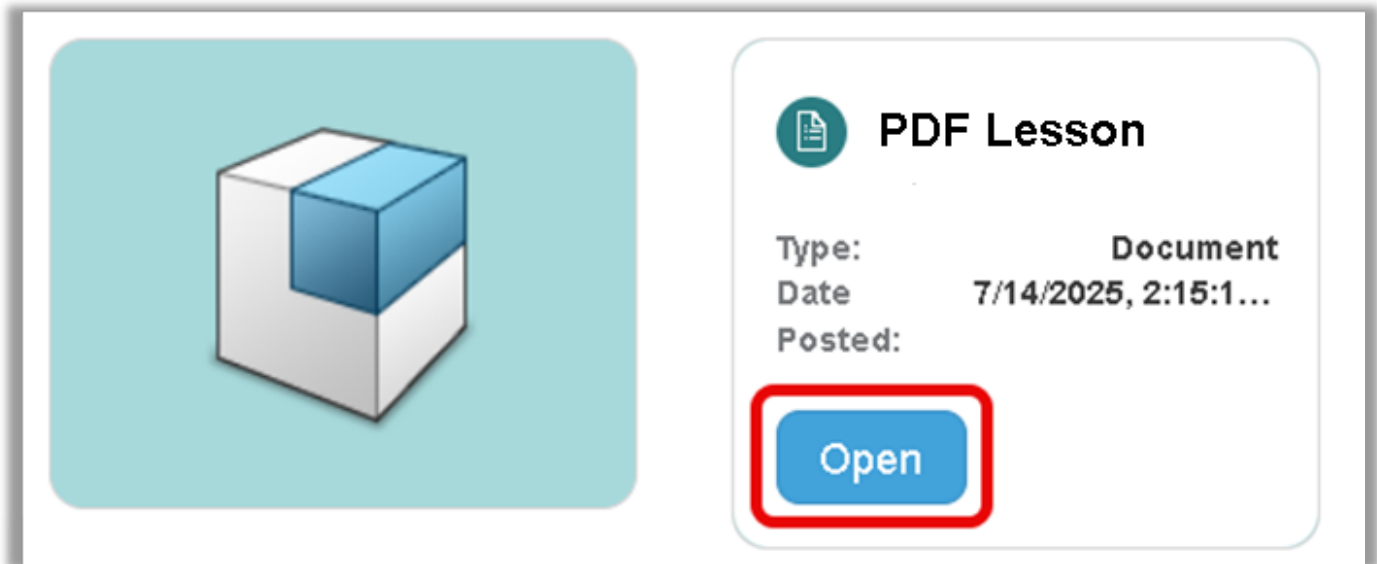
1. Click the **Classes** tab



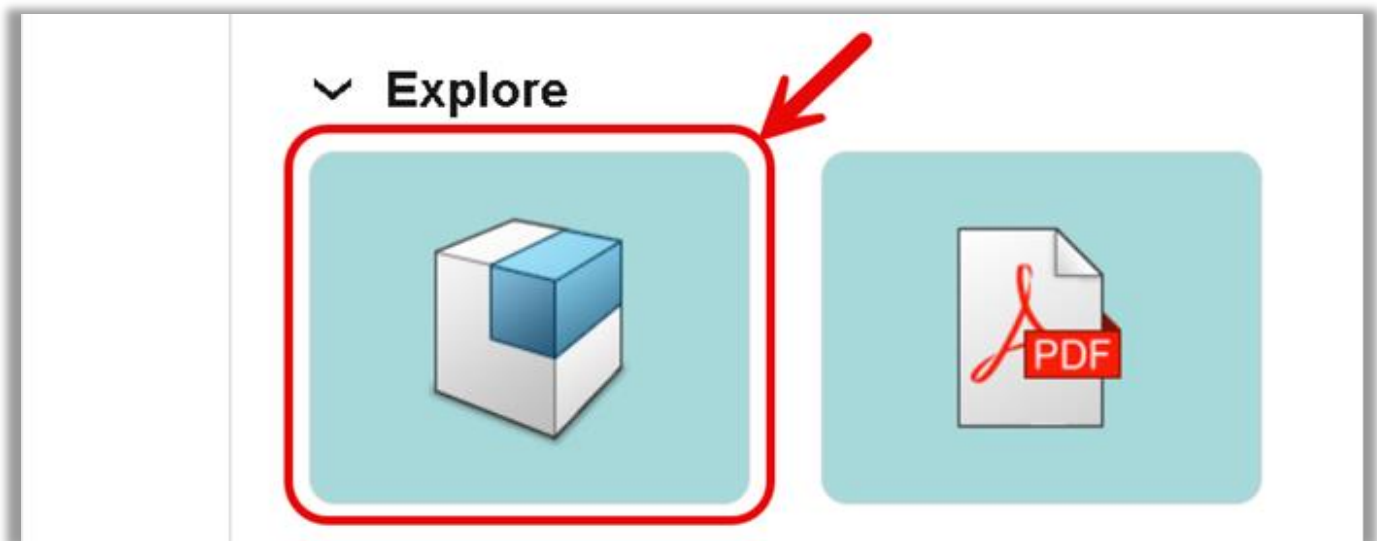
2. Hover over the PDF tile



3. Click **OPEN**



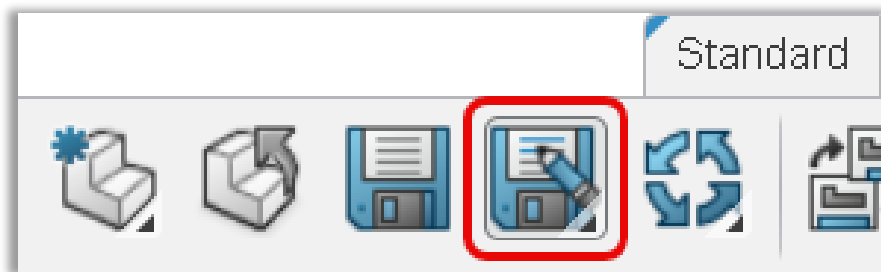
4. Hover over the “Gliders - Manipulating Parametric Designs” tile



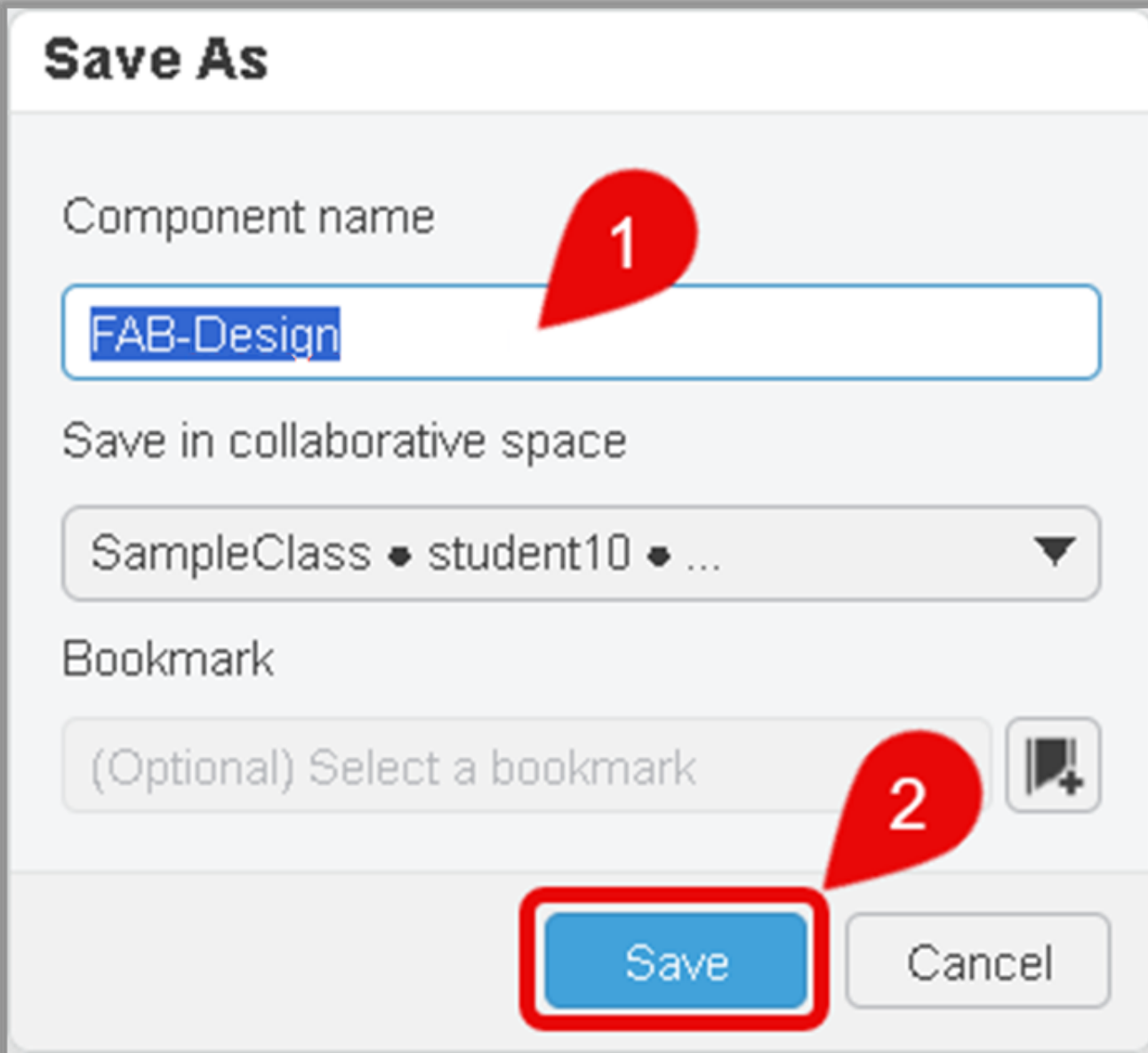
5. Click **OPEN**



6. Click **Save As** on the Standard tab of the Action Bar



7. [1] Type a name for your design, then [2] click **Save**



Save As

Component name

FAB-Design

Save in collaborative space

SampleClass • student10 • ...

Bookmark

(Optional) Select a bookmark

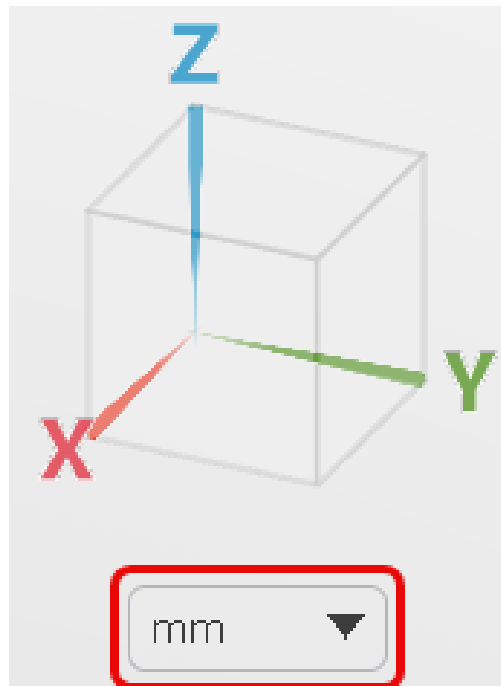
Save Cancel

The image shows a 'Save As' dialog box. A red teardrop callout with the number '1' points to the text input field containing 'FAB-Design'. Another red teardrop callout with the number '2' points to the 'Save' button, which is also highlighted with a red rectangular border. The dialog includes a 'Component name' label, a 'Save in collaborative space' section with a dropdown menu showing 'SampleClass • student10 • ...', and a 'Bookmark' section with a text input field and a bookmark icon.

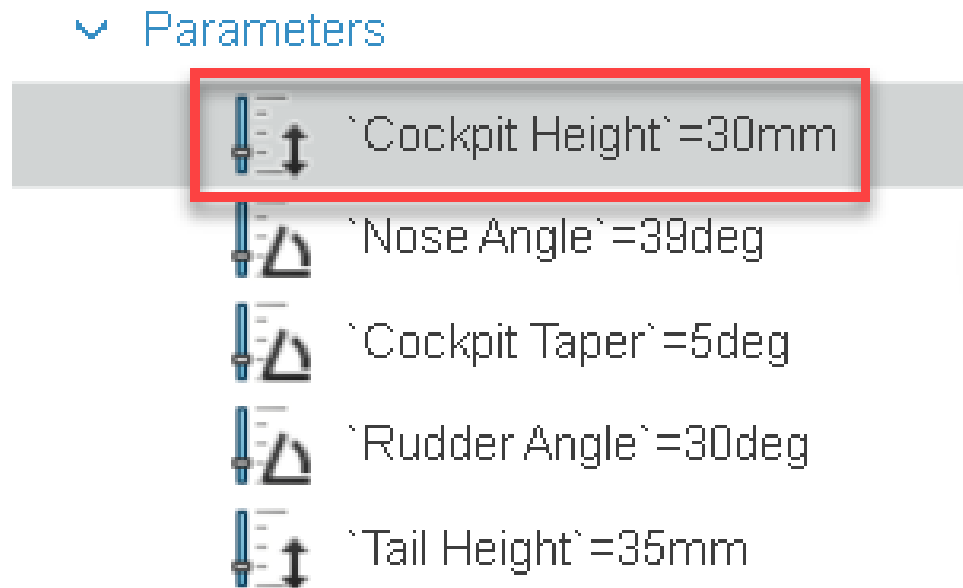
DESIGN YOUR AIRPLANE

This glider has been set up with a bunch of **parameters** that you can easily modify to change its shape. The steps below provide guidance on how to change a few parameters. You can **change as many as you'd like** to make the glider look the way you want.

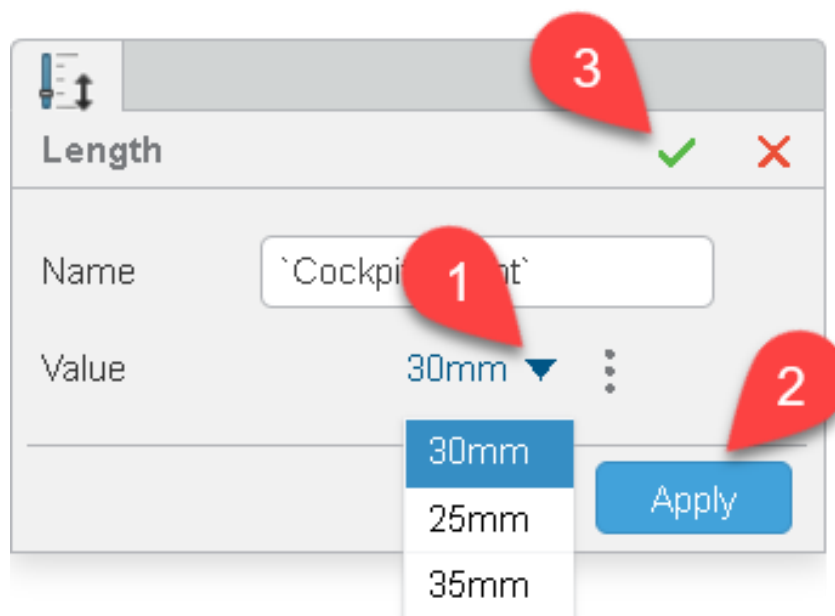
8. Set the model's units to mm



9. Double-click the “Cockpit Height” parameter in the Design Manager

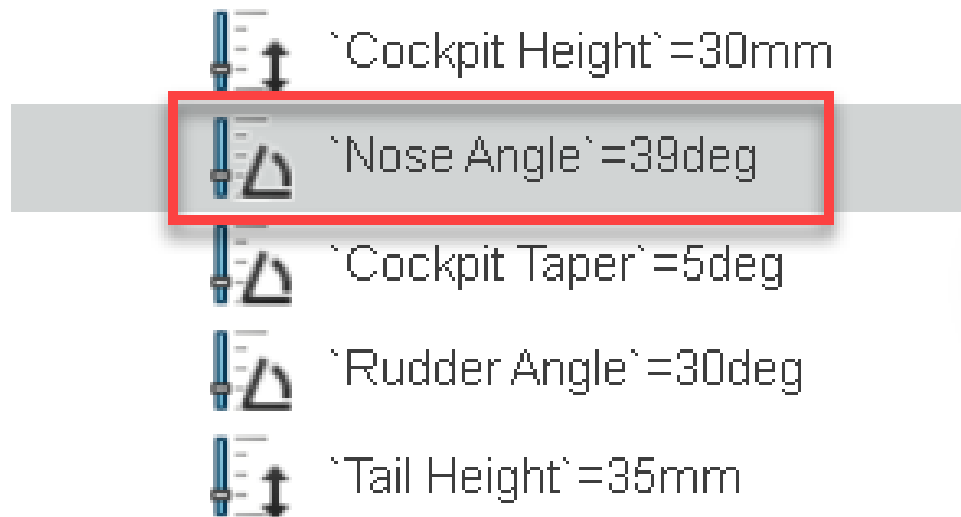


10. This parameter has a specific list of values from which to choose. [1] Select a value from the drop-down list, [2] Click “Apply” to update the model, [3] Click the OK checkmark to close the dialog

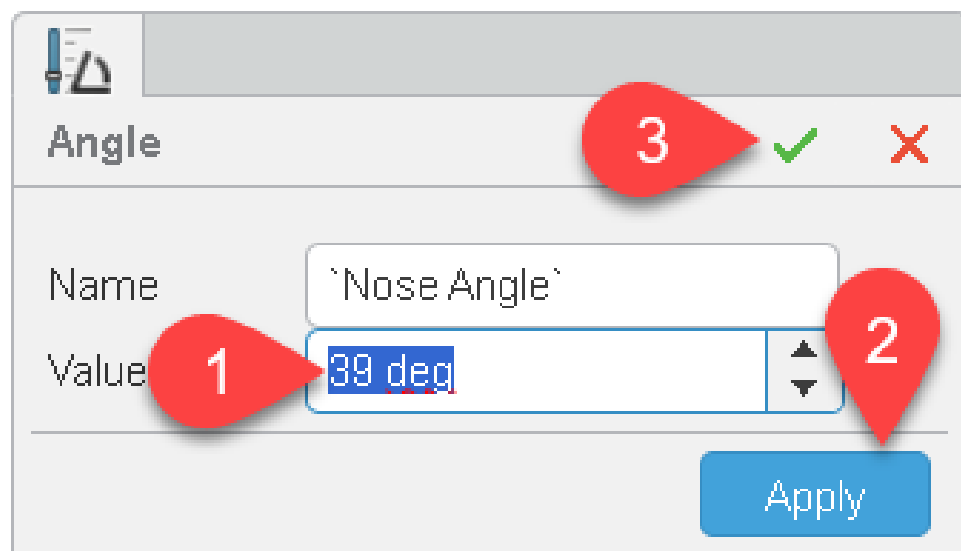


11. Double-click the “Nose Angle” parameter in the Design Manager

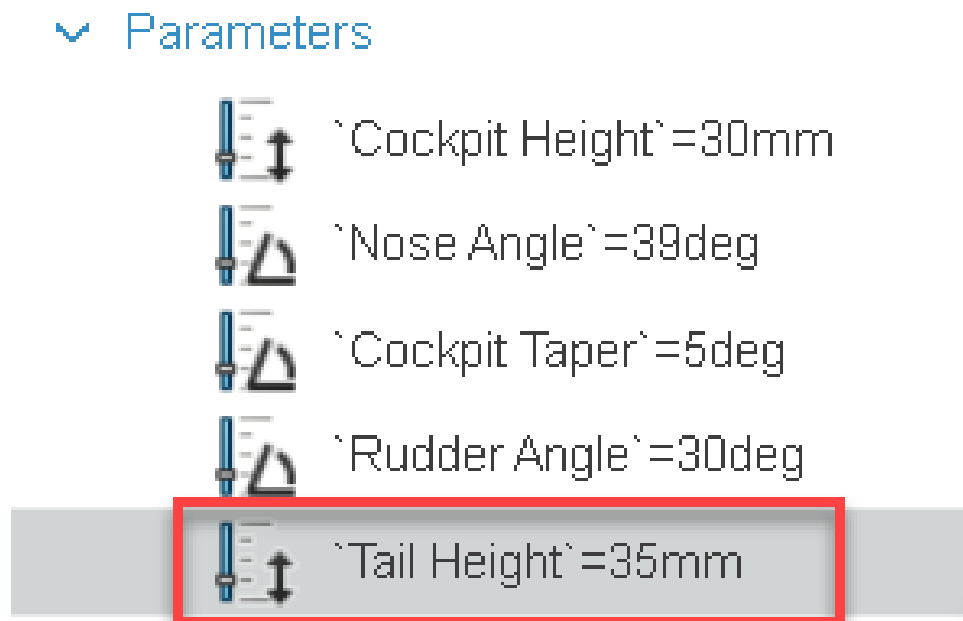
Parameters



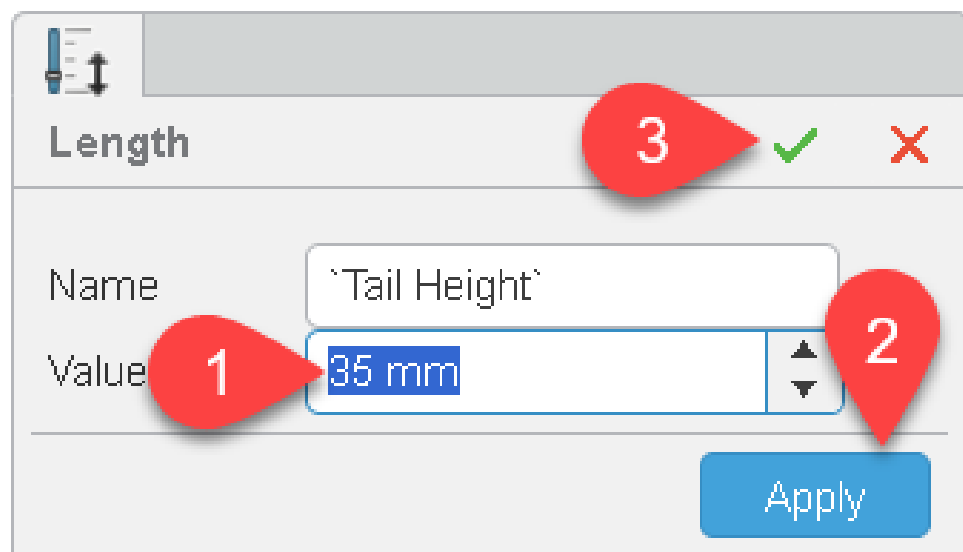
12. This parameter has a limited range of values from which you can use. [1] Enter a number from 30 to 50 in the “Value” field, [2] Click “Apply” to update the model, [3] Click the OK checkmark to close the dialog



13. Double-click the “Tail Height” parameter in the Design Manager



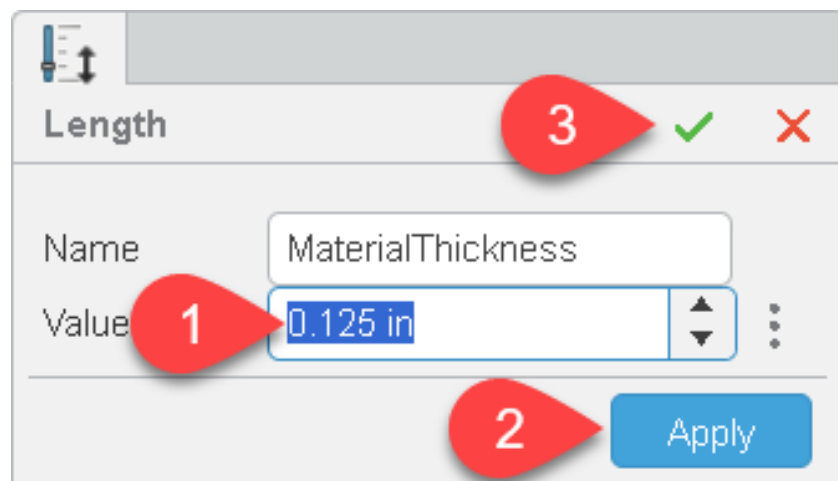
14. This parameter has an unlimited value range. [1] Enter any number into the “Value” field (it should still be small enough to fit on a piece of balsa), [2] Click “Apply” to update the model, [3] Click the OK checkmark to close the dialog



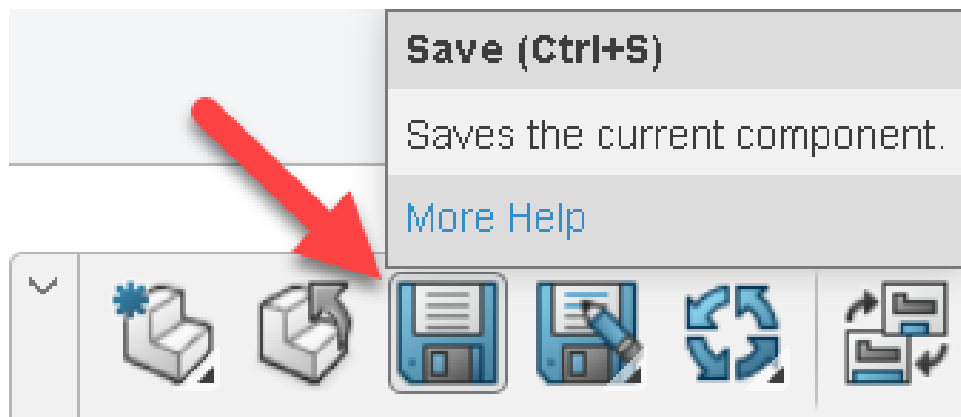
15. Experiment with changing all the other parameters to get the glider to look exactly how you want it, and then work with your instructor to measure the thickness of the wood you're using for this lesson.
16. Double-click the "Material Thickness" parameter in the Design Manager



17. [1] Enter the thickness of the wood in the "Value" field, [2] Press "Apply" to update the model, [3] Click the OK checkmark to close the dialog

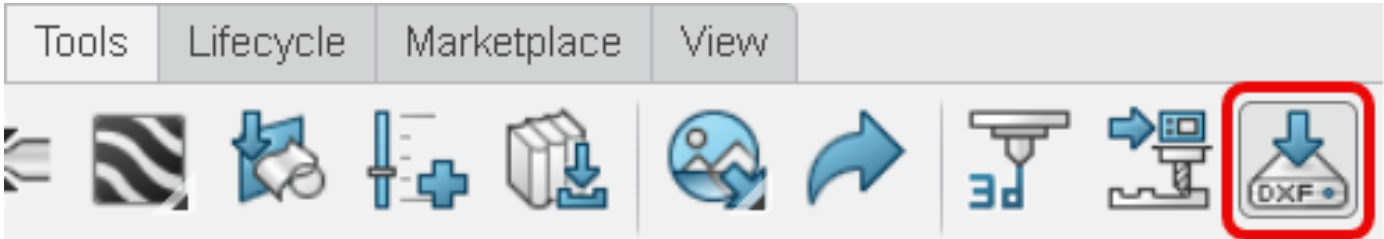


18. You should also work with your instructor to decide on a fit tolerance for the pieces. This will allow the pieces to fit more snugly together. Once you agree on a number, edit the “Fit Tolerance” value.
19. Click “**Save**” on the Action Bar to save your balsa glider

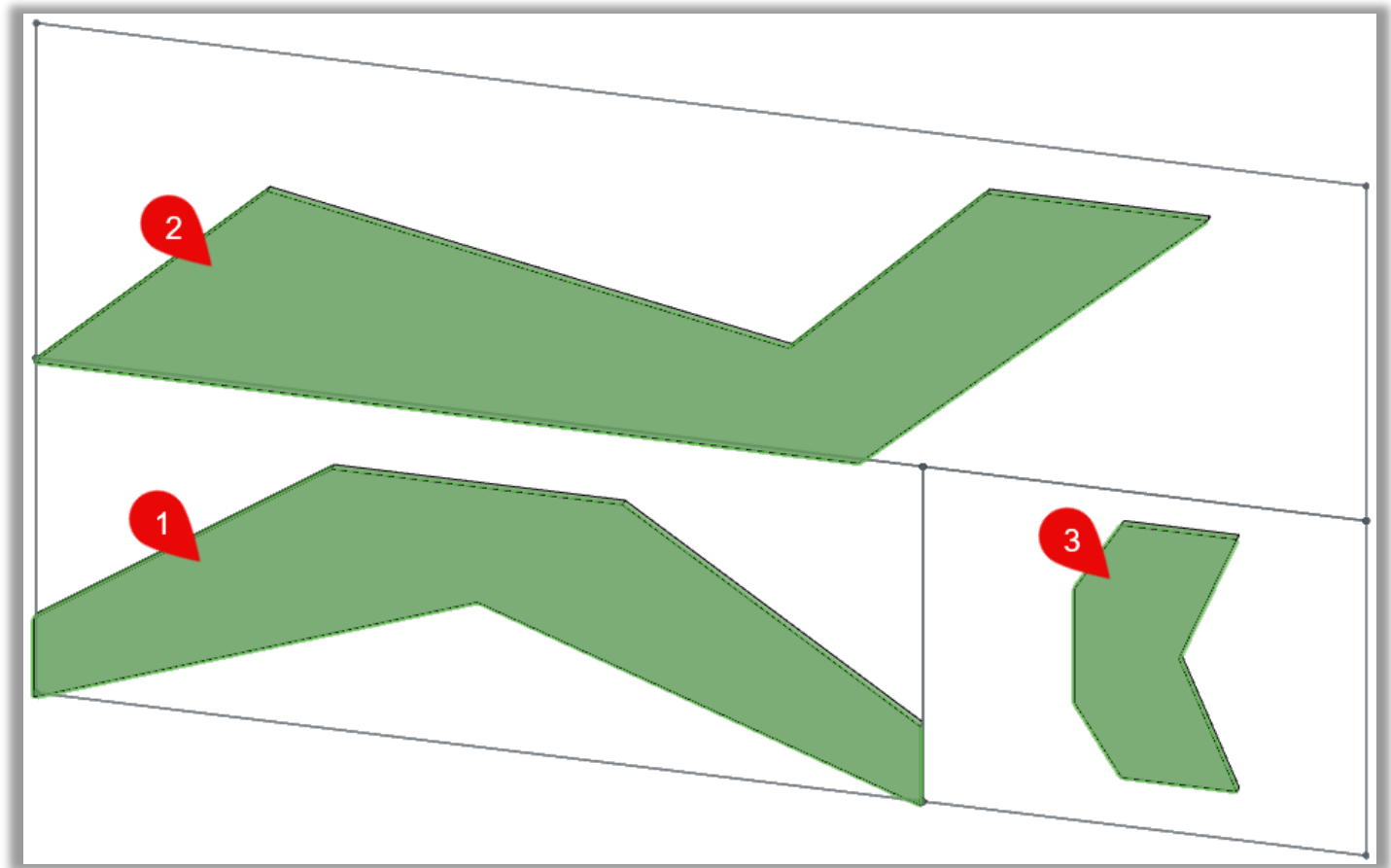


FABRICATE YOUR AIRPLANE

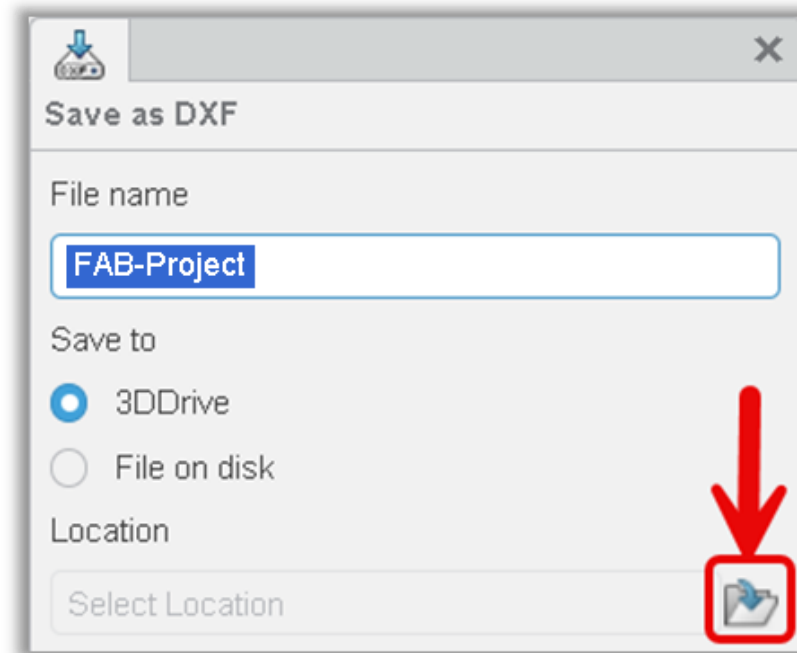
20. Click the **DXF** command on the Tools tab of the Action Bar



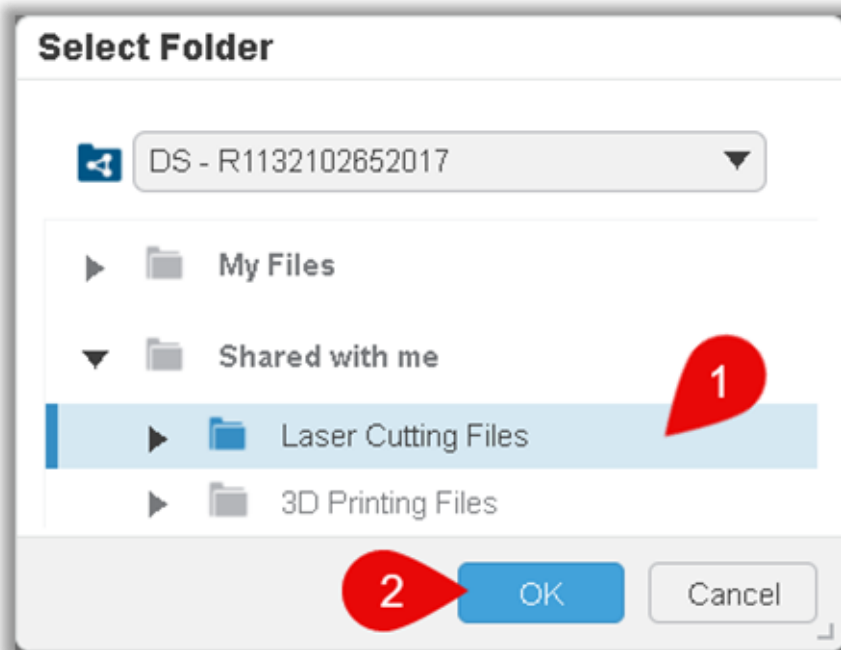
21. Select the three large faces of your airplane parts



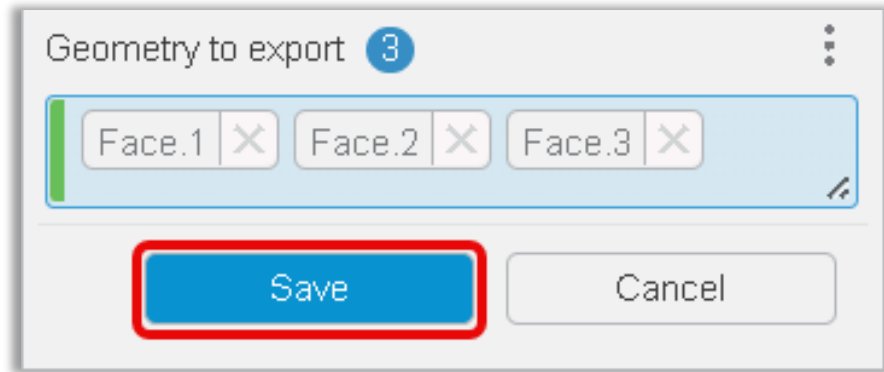
22. Click the Location folder button



23. [1] Select the folder your instructor told you to use to save your files then [2] click **OK**



24. Click the **Save** button in the Save as DXF dialog



Congratulations!

You're ready to laser cut your airplane!

See your teacher for further instruction!