

# Unit 3 - Onshape Power Tools

## Resources

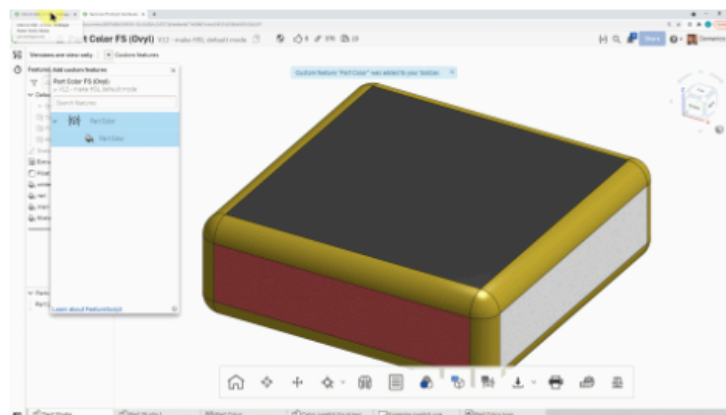
| Resource                 | Topics                                                                                                          | Resource Links                                                                 | Pacing |
|--------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------|
| Summary and Pacing Guide | <ul style="list-style-type: none"><li>Unit Goals</li><li>Lesson Descriptions</li><li>Suggested Pacing</li></ul> | <a href="#">Summary and Pacing Guide</a>                                       |        |
| Lecture                  | What is an Engineer?                                                                                            | <a href="#">Lecture Slide Deck</a><br><a href="#">Peardeck adapted</a> version | 10 Min |
| Assessment               | <ul style="list-style-type: none"><li>Part Modeling</li><li>Assembly</li><li>Drawings</li></ul>                 | <a href="#">Unit 3 Summative Assessment</a>                                    | 20 Min |
| Additional Support       | YouTube Play List of Step by step for struggling students                                                       | <a href="#">Playlist for Unit 3</a>                                            |        |

## Lessons

### Step 16

Let's add our first custom feature to your toolbar.

1. Left-click on this link to the [Part Color FS](#).
2. Left-click on the **Add custom feature** icon (+) at the top left.
3. Left-click on **Part Color** with the paint bucket icon in the new menu to select it.
4. That's it. You now have a new custom feature!
5. Go back to the tab with your brick model.



| Lesson                         | Topics                                                                                                                                                                                                                                                                                                                                                        | Resource Links                                                                                                                                                                                       | Pacing  |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 3.1 How the Pros Do It         | <b>Topics</b> <ul style="list-style-type: none"> <li>Review: basic rectangular extrusion</li> <li>Design intent</li> <li>Using 2D sketches to create 3D solids</li> <li>Workspace units</li> </ul> <b>New CAD Skills</b> <ul style="list-style-type: none"> <li>Variables</li> <li>Shell</li> <li>Creating mate connectors</li> <li>Linear pattern</li> </ul> | <ul style="list-style-type: none"> <li><a href="#">Teacher Guide</a></li> <li><a href="#">Slide Deck</a></li> <li><a href="#">Student Guide</a></li> <li><a href="#">Onshape Document</a></li> </ul> | 1 hour  |
| 3.2 One Brick to Rule Them All | <b>Topics</b> <ul style="list-style-type: none"> <li>Configuration tables</li> <li>RGB color codes</li> <li>Construction geometry</li> </ul> <b>New CAD Skills</b> <ul style="list-style-type: none"> <li>Configuring a part</li> <li>Custom features</li> <li>Tangent constraint</li> <li>Feature suppression</li> </ul>                                     | <ul style="list-style-type: none"> <li><a href="#">Teacher Guide</a></li> <li><a href="#">Slide Deck</a></li> <li><a href="#">Student Guide</a></li> <li><a href="#">Onshape Document</a></li> </ul> | 2 hours |

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|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 3.3 Building Blocks    | <b>Topics</b> <ul style="list-style-type: none"> <li>• Assembly</li> <li>• Mate tool persistence</li> </ul> <b>New CAD Skills</b> <ul style="list-style-type: none"> <li>• Snap mode</li> <li>• Assembling configured parts</li> <li>• Modifying assemblies</li> </ul> | <ul style="list-style-type: none"> <li>• <a href="#">Teacher Guide</a></li> <li>• <a href="#">Slide Deck</a></li> <li>• <a href="#">Student Guide</a></li> <li>• <a href="#">Onshape Document</a></li> </ul> | 2 hours |
| 3.4 Instruction Manual | <b>Topics</b> <ul style="list-style-type: none"> <li>• Communicating design</li> <li>• Creating instructions</li> </ul> <b>New CAD Skills</b> <ul style="list-style-type: none"> <li>• Exploded view</li> <li>• Bill of Materials</li> </ul>                           | <ul style="list-style-type: none"> <li>• <a href="#">Teacher Guide</a></li> <li>• <a href="#">Slide Deck</a></li> <li>• <a href="#">Student Guide</a></li> <li>• <a href="#">Onshape Document</a></li> </ul> | 2 hours |