



## Instructional Strategies

1. Grouping – I highly recommend that students have a 'buddy' to work with when learning how to use tinkercad
2. Discovery Learning – You will probably not have many of the skills needed for 3D creation and printing. Even if you do, I'm sure there will be some rare skills that you do not have. Therefore, guide students to the thingiverse site and have them explore it together and share what they have discovered. This may mean some movement around the room. Use the strategy, "ask 3 before you ask me". Even when a student asks you a question that you can't answer, call out and ask the class if they have a solution. Nine times out of ten, someone will. When students go to tinkercad, direct them to complete the basics tutorials first before attempting any modifications. These can also be reviewed as a reference point later. Again, have students collaborate and help each other.

## Extensions

From here, students may well want to delve deeper into 3D design or you may want to pursue Project-based Learning in another unit. Therefore, your next steps could be:

1. <https://projectignite.autodesk.com/> - great project space with links to more advanced 3D design apps at <http://www.123dapp.com/>
2. <https://www.makersempire.com/> - this has entire curricular K-8, but needs a subscription.
3. <https://academy.autodesk.com/> - free design, engineering, animation, and architecture courses
4. <http://www.sketchup.com/> - very easy 3D Design software that is free for Education. It is also very well supported and has an extensive [3D Warehouse](#).
5. [Creo](#) –Next level up from sketchup. Moderately easy to use 3D design app that is well supported.