Recommended Apps for 3D printing in primary schools

Most of the apps below are really easy to use and provide a really motivating and fun way into the world of 3D printing (if you're lucky enough to have a printer). If you want to go further then there are much more sophisticated applications available for PC that will allow children to design and print very complex projects see below.

Almost all of the apps below require an email account to be on the iPad; they use that to export the .stl file to the computer attached to the 3D printer. Apps with shaded backgrounds are recommended.

If you want to give this a go, we have a 3D printer that we will be happy to loan to you for a three week period and we'll come and lead an introductory session for you to get you up and running. Contact msanderson@herefordshire.gov.uk to arrange this.

iPad apps for 3D design / printing	
	**Cubify Draw (free)** ☑ EYFS ☑ KS1 ☒ KS2 A really easy app to use, just take your finger for a walk to draw a shape, adjust the thickness of your line, make it 3D (alter the height), email to the computer attached to the 3D printer to print. Great for making pastry cutters! Limited functionality beyond KS1
	**Blokify (£2.99)** ☑ EYFS ☑ KS1 ☑ KS2 Great for designing and printing a range of things in different environments, there's a gaming type challenge built into the app by way of a tutorial. Easy to create a design from an extensive range of different "bloks" (wood, stone, windows etc) requires an email account on the iPad.
	**TinkerCAD (web based - free)** ☒ EYFS ☒ KS1 ☑ KS2 If you are looking for more advanced design capabilities for KS2 then this is probably the place to start. It's not an app you just run it from www.tinkercad.com and therefore it's usable on any technology (you need to create an account). It's worth working through the tutorials before getting too ambitious.
	**123D Design (free)** ☒ EYFS ☒ KS1 ☑ KS2 Perhaps slightly more sophisticated than TinkerCAD (above) This is the app version of the PC application (below) and is available as an app for all tablet platforms. The best way to get the STL file to the computer is to create an account and save designs to the cloud from your iPad and then pick them up on the PC.
	**Tinkerplay (free)** ☒ EYFS ☒ KS1 ☑ KS2 Design and build a character with linked body joints. Design the character from the many body parts available in the app. The printer prints each part separately and you then assemble the model. As you may imagine, printing takes some time.
	**Trimentional (free but in-app purchase of£3.99)** ☑ EYFS ☑ KS1 ☑ KS2 A really impressive app, very easy to use – takes seconds. Scan any object (in the dark) and a 3D plaque is produced that can be printed. You'll want to try your face first of all – a bit scary! In app purchase is required to allow export of the design via email (requires email account on the iPad)
	**Makers Empire (free but necessary in-app purchases)** ☒ EYFS ☑ KS1 ☑ KS2 There's a lot in this app which forms a part of a very expensive but impressive scheme of work for 3D printing. You need to do in-app purchases (probably impossible in school) to unlock printing of each part of the app though. Have a look at the shaper section. Finished designs are emailed from within the app, so no need for an email account on the iPad.

Windows PC 3D design / printing applications	
AUTODESK 123D	**Autodesk 123D Design (free)** ☒ EYFS ☒ KS1 ☑ KS2 Not as fully featured as Sketchup but quite easy to use and exports STL files easily into printer software. It's also available as an app (for all tablet platforms) and the best way to get the STL file to the computer is to create an account and save designs to the cloud from your iPad and then pick them up on the PC.
TINKERCAD	**TinkerCAD (web based – free)** ☒ EYFS ☒ KS1 ☑ KS2 If you are looking for more advanced design capabilities for KS2 then this is probably the place to start. It's not an app you just run it from www.tinkercad.com and therefore it's usable on any technology (you need to create an account). It's worth working through the tutorials before getting too ambitious.
SketchUp	**Trimble Sketchup Make (free)** ☒EYFS ☒ KS1 ☑ KS2 Originally by Google, this has been around for some while and is a pretty comprehensive tool for 3D design – children love it once they've been shown the basics. This free version does not export STL files, you will need to add in the free extension to achieve this (I've had limited success though)