Yr 9 CAD 3-D Printing Ks3 Student Progress Mastery Table

3-D printing. (KS3)	**Emerging** – a Y9 emerging student will be complete the following criteria:	**Developing** – a Y9 developing student will be complete the following criteria:	**Secure** – a Y9 secured student will be complete the following criteria:	**Mastered** – a Y9 Mastered student will be complete the following criteria:
Design	Can label design ideas to show different features. Can sketch a range of basic design ideas. Can state something new learnt in a lesson. Can describe the design brief and link some features to this brief. Can describe some features with basic annotation of your final 3-D design.	Can fully label design ideas to show different features. Can sketch a range of accurate design ideas. Can describe fully something new learnt in a lesson. Can describe the design brief and link multiple features to this brief. Can describe multiple features with good annotation of final 3-D design.	Can fully label design ideas and annotate different changes made during the CAD design process of the product design. Can accurately draw a range of design ideas, linked to the design brief. Can explain fully something new learnt in a lesson. Can explain the design brief and link multiple features to this brief. Can explain multiple features with good annotation of final 3-D design.	Can fully label design ideas and evaluate in detail different changes made during the CAD/SLICING process of the final product design. Can accurately render on CAD a range of highly detailed design ideas, linked to the design brief. Can explain fully something new learnt in a lesson. Can complete research on various 3-D printing Technologies and link to your final product and design brief. Can evaluate multiple features with detailed annotation of final product.

Make	Can render using TINKER CAD the finished product with support. Can describe Slicing techniques used in formatting the product into the correct printing file. Can use CAD software with some accuracy and with guidance. Can complete two CAD techniques with guidance and support. Can render some 3-D shapes with guidance to a basic standard. Can suggest a way in which their product can be improved.	Can render using TINKER CAD the finished product without support. Can fully describe the Slicing techniques and formatting of printing files. Can use CAD software with accuracy and with some guidance. Can complete three CAD techniques with some support. Can render some 3-D shapes with guidance to a good standard. Can fully describe a way in which their 3-D model can be improved and then complete these improvements.	Can render an accurate and well-designed Tinker CAD model without support. Can fully explain the slicing techniques and formatting of printing files/printer assembly. Can use both CAD/slicing software and Printer hardware with accuracy and no support. Can complete three CAD techniques without guidance. Can render multiple 3-D shapes with guidance to a high standard. Can fully explain ways in which their 3-D model can be improved and then complete these improvements.	Can render a highly accurate and well-designed Tinker CAD model without support. Can fully explain the slicing techniques and formatting of printing files/printer assembly, also suggest solutions for printing problems. Can use both CAD/slicing software and Printer hardware with high accuracy and no support. Can complete four CAD techniques without guidance. Can render multiple 3-D shapes with guidance to a very high standard. Can fully evaluate ways in which their 3-D model can be improved, linking to existing designs in the market place.