Digital Designer

	Exploratory Learner will	Developing Learner will	Confident Learner will	Independent Learner will	Transformational Learner will
Awareness	Understand that things have to be designed before they can be made. Understand that technology can be used in design. Understand that 2D nets can be used to form 3D objects.	Understand that a range of software can be used to design things on screen in 2D and 3D. Understand that technology can be used to manufacture objects created on-screen.	Choose a specific design program or application suitable for a particular requirement. Understand that designs may need to be modified prior to production. Understand that alternative features may enhance a design.	Understand the different forms of design and thinking skills needed for different design packages i.e. 2D Design, 3D Modelling. Understand the link between the design process and associated software and the manufacture and associated hardware. Understand that manufacturing processes have limitations.	Understand the complete process of CAD/ CAM from initial idea to final product. Make informed choices about the best software and hardware to use to meet a brief.
Planning	Contribute to discussions to create a shared 2D plan or 3D design. Use pencil and paper techniques to support the planning process.	Work individually or with other learners to modify a pre-designed template. Determine the correct orientation when designing a 2D net or layout.	Work individually or with other learners to plan the layout of features within a design. Plan scale and tolerance of a design. Plan the features of a 3D model which could successfully be printed in 3D.	Be able to plan a design, for a given brief, using appropriate design applications. Understand that manufacturing processes have limitations and plan designs accordingly.	Use online communities to support the design and manufacturing planning process.
Skills	Contribute to simple 2D designs in a given template eg a room design on an IWB.	Select and use a range of simple drawing tools within software to produce a design. Incorporate objects into a pre-existing template. Fold up a pre-made net and understand how it assembles.	Ensure that designs are realistic in size and that objects are scaled appropriately. Create and begin to test prototype designs, with the intention of manufacture. Use increasingly sophisticated software and associated design techniques to design products.	Think in 3D whilst designing in 2D. Produce a detailed design using the sophisticated features of chosen software, with the intention of manufacture. Identify problems with an existing design and make adjustments accordingly.	Actively develop skills outside of designated times in school. Reverse engineer a product to improve performance.

				Design and manufacture a range of products in a variety of materials, using an increasing range of software and hardware.	
Sharing	Share designs within the classroom, and view the work of other children.	Share designs within the school and seek opinions from teachers and other learners.	Share designs within the school community e.g. via a learning platform.	Share designs beyond the school e.g. onto the school website.	Share completed designs for public consumption online eg Google 3D Warehouse.
Feedback / Evaluation	Offer an opinion on simple 2D designs. Suggest possible improvements.	View designs, notice potential improvements within their design and offer cosmetic improvements to the designs of others.	Evaluate the features and suitability of own designs and the designs of others against a set of criteria. Give helpful feedback to other learners.	Produce a detailed evaluation of their design against specific design criteria, taking into consideration feedback from peers and teachers. Justify the validity of features within their design.	Respond to feedback, in different forms (such as from online forums), at different stages of design. Produce detailed evaluations of each stage of the work in progress.