

S3 DESIGN & MANUFACTURE

	Project Plan	Resources	Skills	K & U	Homework	Assessment	Benchmarks
MODELLING / retro games 5-6 weeks	<p>This project will cover measuring, modelling tools and techniques where pupils will complete skill builders in creating cubes and cylinders from cardboard. They will then design through the idea generation technique of SCAMPER to come up with a variety of ideas to hold retro games. They will use prior knowledge of modelling to create scale models to test their ideas.</p>	<ul style="list-style-type: none"> PowerPoint with Learning Intentions and Success Criteria for full project Working Drawings of Cube and Cylinder Brief, Research and Analysis page for Retro Games Design Examples of folio pages 	<ul style="list-style-type: none"> Measuring Cutting Gluing 2D & 3D Sketching <ul style="list-style-type: none"> Idea Generation Technique: SCAMPER 	<ul style="list-style-type: none"> Modelling Techniques and Purposes Graphic Techniques <ul style="list-style-type: none"> Idea Generation Techniques: SCAMPER Modelling Tools Health and Safety 	<ul style="list-style-type: none"> Questions on modelling (Created on word which can be printed or uploaded to Teams) 	<ul style="list-style-type: none"> Self-assessment / evaluation at the end of the project End of year exam 	TCH 3.02a TCH 3.09a LIT 3.06a MNU 3.01a TCH 3.11a TCH 3-10a LIT 3-02a LIT 3-21a TCH 4-09a TCH 4-10a LIT 4-22a LIT 4-05a
PHOTO HOLDER 2-3 weeks	<p>This make only skill builder introduces the pupils to common metal work processes.</p>	<ul style="list-style-type: none"> PowerPoint with Learning Intentions and Success Criteria Working drawing with dimensions <ul style="list-style-type: none"> Example 	<ul style="list-style-type: none"> Marking, cutting and shaping wood and acrylic <ul style="list-style-type: none"> Annealing Metalwork Lathe; facing off, taper turning, centre drilling, and parting off <ul style="list-style-type: none"> Taps and dies 	<ul style="list-style-type: none"> Metalwork Lathe terms and processes <ul style="list-style-type: none"> Finishing materials <ul style="list-style-type: none"> Threads Marking and cutting tools <ul style="list-style-type: none"> Assembly Health and safety when using machines 	<ul style="list-style-type: none"> Questions on metalwork lathe (Created on word which can be printed or uploaded to Teams) 	<ul style="list-style-type: none"> Self assessment on the finish quality of plastic End of year exam 	HWB 3-16a TCH 3-09a TCH 3-10a MNU 3-11a

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HEADPHONE HOLDER 8-10 weeks	This is a design and make project. Pupils will analysis a brief, gather research and write a specification. They will make use of 2D and 3D sketching to generate ideas and model throughout refinement. This could be banked for a possible N3/N4.	<ul style="list-style-type: none"> ▪ PowerPoint with Learning Intentions and Success Criteria for full project ▪ Brief, Research and Analysis page covering common research activities covered in N5 ▪ Worksheet on Design Factors; Aesthetics, Function and Ergonomics ▪ Worksheet covering materials and tools properties and uses ▪ Examples of folio pages 	<ul style="list-style-type: none"> ▪ Research and Analysis <ul style="list-style-type: none"> ▪ Measuring ▪ Cutting ▪ Gluing ▪ 2D & 3D Sketching <ul style="list-style-type: none"> ▪ Annotating ▪ Preparing a cutting list <ul style="list-style-type: none"> ▪ Scale modelling 	<ul style="list-style-type: none"> ▪ Analysing a brief ▪ Writing a specification ▪ Gathering research; product comparison, product sizes, mind mapping ▪ Modelling Techniques and Purposes ▪ Graphic Techniques <ul style="list-style-type: none"> ▪ Modelling Tools ▪ Health and Safety ▪ Writing a cutting list ▪ Lamination of wood ▪ Material properties ▪ Tool and machines uses 	<ul style="list-style-type: none"> ▪ Questions on materials and tools (Created on word which can be printed or uploaded to Teams) ▪ Questions on design factors (Created on word which can be printed or uploaded to Teams) 	<ul style="list-style-type: none"> ▪ Self-assessment / evaluation at the end of the project ▪ Final product matching cutting list sizes ▪ End of year exam 	TCH 3-09a TCH 3-10a LIT 3-02a LIT 3-21a TCH 4-09a TCH 4-10a LIT 4-22a LIT 4-05a MNU 3-03b MNU 3-11a MTH 4-12a HWB 3-16a
CANDLESTICK 2-3 weeks	This make only skill builder takes the pupils through the process of preparing a blank and introduces them to the woodwork lathe.	<ul style="list-style-type: none"> ▪ PowerPoint with Learning Intentions and Success Criteria ▪ Worksheet with tool identify and use, ideation and preparing a blank process 	<ul style="list-style-type: none"> ▪ Preparing a blank ▪ Woodwork Lathe and tools <ul style="list-style-type: none"> ▪ Finishing wood ▪ Drilling 	<ul style="list-style-type: none"> ▪ Setting up the Woodwork Lathe ▪ Identifying the correct tools; scraper, parting, skew ▪ Creating features; cove, bead, pattern ▪ Finishing material on the Lathe ▪ Health and safety protocols when using the Woodwork Lathe 	<ul style="list-style-type: none"> ▪ Questions on the Woodwork Lathe and appropriate tools 	<ul style="list-style-type: none"> ▪ Nov Assessment ▪ End of year exam 	HWB 3-16a TCH 3-09a TCH 3-10a MNU 3-11a

