**Curriculum Map Year 9 Design Tech 2022/23**

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|  | **BLOCK 1** | **BLOCK 2** | **BLOCK 3** |
|  | **Term 1** | **Term 2** | **Term 3** | **Term 4** | **Term 5** | **Term 6** |
| **Dates** | 1st September – 21st October | 31st October – 22nd December | 9th January –10th February | 20th February – 31st March | 17th April – 26th May | 5th June – 21st July |
| **Weeks** | 8 Weeks | 8 Weeks | 5 Weeks | 6 Weeks | 6 Weeks | 7 weeks |
| **Assessment** |  | AP1:Y7-10 and 12. W/B Jan 16th, 16 weeks in (1 lesson assessment) | AP2:Y7-9 W/B June12th, 16 weeks from AP1. (1 lesson assessment) |
| **Lessons** | 8 Lessons | 8 Lessons | 5 Lessons | 6 Lessons | 6 Lessons | 7 Lessons |
| **Inset** | 1S September, 2nd September 23rd December (School Closed) | 4th, 5th & 6th January  |  |
| **Unit Title** | **Y9 Design Tech: Electronic nightlight**  | **Y9 Design Tech: LED nightlight /Jewellery**  | **Y9 Design Tech: Wooden trinket box**  |
| **Sequence** | **LED bedside nightlight project – CAD CAM & electronics**Research existing product nightlightsResearch design ideas for nightlight acrylic faceCAD designs for nightlight face in Techsoft 2D design Initial design ideasFinal Design – sketch, rendered in colourMaking the wooden base for the productMaking the circuit - Soldering H&SAssembly of the productPhotograph and evaluateCAD skills (development of 3D SketchUp drawing ICT)  | **Continue and finish LED nightlight project – CAD CAM & electronics**Assembly of the productPhotograph and evaluateCAD skills (development of 3D SketchUp drawing ICT)  **Metalwork jewellery project** – Research task and exploring existing productsProducing initial jewellery designsIndependently drawn CAD design for jewellery productProduction of templateManufacture final productPhotograph and evaluate product | **Wooden storage box**Softwood/hardwood, manufactured board, sustainability theory lessonsResearch tasks and investigationInitial design ideasModelling in card/cardboardIndependently hand drawn designs of product.3D Sketchup designs of productInitial ideas and design developmentManufactured board use and research Workshop tools worksheetsFinal DesignCAD skills (development of 3D SketchUp drawing ICT) Manufacture of the wooden storage boxPhotograph and evaluate the product |
| **Key Building Blocks** | Research knowledge and understanding existing products CAD skills learning to use 2D and 3D /model/sketch upH&S in the workshopUnderstanding the different properties and uses of different woods and manufactured board. Research and investigate a productDesign ideas and development of iterationsCAD modelling to develop further iterationsConstruction of a final product Use of hand tools/processes: Tenon saw, try square, hand file, marking gauge, templates Use of workshop machines: Pillar drill, belt sander, Dremel tool.Finishing skills: paint, stain and varnishEvaluate, Written evaluation, peer evaluate and discuss the classes products | Research knowledge and understanding existing products and materialsH&S in the workshopUnderstanding the different properties and uses of different materialsResearch and investigate a productDesign ideas and development of iterationsCAD skills – 2D designConstruction of a final product (jewellery product)Use of hand tools/processes: Piercing saw, hand and needle file.Use of workshop machines: Pillar drill, buffing machine.Finishing skills: Polish, metal punchEvaluate, Written evaluation, peer evaluate and discuss the classes products | Research knowledge and understanding existing products and materials.H&S in the workshopUnderstanding the different properties and uses of different woods and manufactured board. Research and investigate a productDesign ideas and development of iterationsCAD modelling to develop further iterationsConstruction of a final product Use of hand tools/processes: Tenon saw, try square, hand file, marking gauge, screwdrivers Use of workshop machines: Pillar drill, belt sander. Finishing skills: paint, stain and varnishRoland stikka design and use of the machineryEvaluate, Written evaluation, peer evaluate and discuss the classes products |
| **Retrieval Practices** | Do Now activitiesLow stakes quizzes | Do Now activitiesLow stakes quizzes | Do Now activitiesLow stakes quizzes |
| **Key Skills** | CAD skills and ICTH&S in the workshopDrawing skills Soldering Practical workshop skills: use of various workshop tools and processesFinishing skills | CAD skills and ICTH&S in the workshopDrawing skills Practical workshop skills: use of various workshop tools and processesFinishing skills | CAD skills and ICTH&S in the workshopDrawing skills CAD modelling skillsPractical workshop skills: use of various workshop tools and processesFinishing skills |
| **Literacy** | Written & Oral communicationParagraph structureVocab development | Written & Oral communicationParagraph structureVocab development | Written & Oral communicationParagraph structureVocab development |
| **Numeracy** | Learning the decimal system—mm, cm and meters – practicing measuring and marking outRatios and size (in millimetres and cm)3D shapes in virtual and physicalRadius, Diameter. Geometric terms: Horizontal, Vertical, Height, Width, Depth, Parallel | Learning the decimal system—mm, cm and meters – practicing measuring and marking outRatios and size (in millimetres and cm)3D shapes in virtual and physicalRadius, Diameter. Geometric terms: Horizontal, Vertical, Height, Width, Depth, Parallel | Learning the decimal system—mm, cm and meters – practicing measuring and marking outRatios and size (in millimetres and cm)3D shapes in virtual and physicalRadius, Diameter. Geometric terms: Horizontal, Vertical, Height, Width, Depth, Parallel |
| **Formative Assessment** | Peer & Self-AssessmentTeacher feedback | Peer & Self-AssessmentTeacher feedback | Peer & Self-AssessmentTeacher feedback |
| **Summative Assessment** |  | AP1 | AP2 |
| **Social** | Students are given opportunities to work in small teams and pairs to solve design problems. By peer assessing work they learn from each other and are taught to articulate their ideas through combining drawing, discussion and writing.Students are taught the social skills around behaviour self-regulation to ensure collective responsibility for a safe and efficient working environment. |
| **Moral** | Students contribute to a safe working environment by observing specific safety requirements. Students are taught the social skills around behaviour self-regulation to ensure collective responsibility for a safe and efficient working environment. Students design and make products that do not offend.  |
| **Spiritual** | Students get a great sense of enjoyment from creating products in the areas of product design. The fun element of making, testing and evaluating using new skills gives students opportunities to challenge themselves and discover talents they were unaware of.Students are introduced to new and smart materials and their numerous applications.  |
| **Cultural** | DT reflects on ingenious products and inventions, the diversity of materials and ways in which DT can improve the quality of life. When students make their product, they might look at their product and how it is used in other cultures and throughout history. |
| **British Values** | Mutual Respect – having mutual respect for each other’s ideas and design decisions. This will also be reinforced in the classroom with peer-to-peer relationships and positive professional relationships between student and teacher |
| **Gatsby Benchmark 4 Linking curriculum to careers** | Linked with industrial processes for future jobs/career opportunitiesRegular discussion regarding links with the subject matter and jobs in design and manufacturing Jaguar Land Rover (JLR), electrician apprenticeship, electrical engineering, 3D CAD design for manufacturing, virtual modelling for video, apps, websites and computer gaming careers. Construction industry: carpentry etc  |