**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 nightlights  Research design ideas for nightlight acrylic face  CAD designs for nightlight face in Techsoft 2D design  Initial design ideas  Final Design – sketch, rendered in colour  Making the wooden base for the product  Making the circuit - Soldering H&S  Assembly of the product  Photograph and evaluate  CAD skills (development of 3D SketchUp drawing ICT) | | **Continue and finish LED nightlight project – CAD CAM & electronics**  Assembly of the product  Photograph and evaluate  CAD skills (development of 3D SketchUp drawing ICT)  **Metalwork jewellery project** –  Research task and exploring existing products  Producing initial jewellery designs  Independently drawn CAD design for jewellery product  Production of template  Manufacture final product  Photograph and evaluate product | | **Wooden storage box**  Softwood/hardwood, manufactured board, sustainability theory lessons  Research tasks and investigation  Initial design ideas  Modelling in card/cardboard  Independently hand drawn designs of product.  3D Sketchup designs of product  Initial ideas and design development  Manufactured board use and research Workshop tools worksheets  Final Design  CAD skills (development of 3D SketchUp drawing ICT)  Manufacture of the wooden storage box  Photograph and evaluate the product | |
| **Key Building Blocks** | Research knowledge and understanding existing products  CAD skills learning to use 2D and 3D /model/sketch up  H&S in the workshop  Understanding the different properties and uses of different woods and manufactured board.  Research and investigate a product  Design ideas and development of iterations  CAD modelling to develop further iterations  Construction 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 varnish  Evaluate, Written evaluation, peer evaluate and discuss the classes products | | Research knowledge and understanding existing products and materials  H&S in the workshop  Understanding the different properties and uses of different materials  Research and investigate a product  Design ideas and development of iterations  CAD skills – 2D design  Construction 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 punch  Evaluate, Written evaluation, peer evaluate and discuss the classes products | | Research knowledge and understanding existing products and materials.  H&S in the workshop  Understanding the different properties and uses of different woods and manufactured board.  Research and investigate a product  Design ideas and development of iterations  CAD modelling to develop further iterations  Construction 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 varnish  Roland stikka design and use of the machinery  Evaluate, Written evaluation, peer evaluate and discuss the classes products | |
| **Retrieval Practices** | Do Now activities  Low stakes quizzes | | Do Now activities  Low stakes quizzes | | Do Now activities  Low stakes quizzes | |
| **Key Skills** | CAD skills and ICT  H&S in the workshop  Drawing skills  Soldering  Practical workshop skills: use of various workshop tools and processes  Finishing skills | | CAD skills and ICT  H&S in the workshop  Drawing skills  Practical workshop skills: use of various workshop tools and processes  Finishing skills | | CAD skills and ICT  H&S in the workshop  Drawing skills  CAD modelling skills  Practical workshop skills: use of various workshop tools and processes  Finishing skills | |
| **Literacy** | Written & Oral communication  Paragraph structure  Vocab development | | Written & Oral communication  Paragraph structure  Vocab development | | Written & Oral communication  Paragraph structure  Vocab development | |
| **Numeracy** | Learning the decimal system—mm, cm and meters – practicing measuring and marking out  Ratios and size (in millimetres and cm)  3D shapes in virtual and physical  Radius, Diameter. Geometric terms: Horizontal, Vertical, Height, Width, Depth, Parallel | | Learning the decimal system—mm, cm and meters – practicing measuring and marking out  Ratios and size (in millimetres and cm)  3D shapes in virtual and physical  Radius, Diameter. Geometric terms: Horizontal, Vertical, Height, Width, Depth, Parallel | | Learning the decimal system—mm, cm and meters – practicing measuring and marking out  Ratios and size (in millimetres and cm)  3D shapes in virtual and physical  Radius, Diameter. Geometric terms: Horizontal, Vertical, Height, Width, Depth, Parallel | |
| **Formative Assessment** | Peer & Self-Assessment  Teacher feedback | | Peer & Self-Assessment  Teacher feedback | | Peer & Self-Assessment  Teacher 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 opportunities  Regular 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 | | | | | |