**Curriculum Map Year 7 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** | Baseline assessment (2 lesson 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** | **Y7 Design Tech: Acrylic pencil holder** | **Y7 Design Tech: CAD laser-cut ruler** | **Y7 Design Tech: Wooden desk tidy**  |
| **Sequence** | **BASELINE TEST x 2 lessons** **Acrylic pencil holder**H&S workshop and tasksInitial design ideas & card modellingHand drawn final design of pencil holder Sketch colour or OrthographicMake acrylic pencil-holder, drill& line bendFinal Design for product Photograph and evaluate productCoping saw skillsDesign and make Christmas decoration | **CAD tutorials and laser-cut ruler** CAD skills (development of 2d drawing ICT) CAD drawing tutorials: page set-up, draw single lines, multi lines, delete, circles, rectangles, text, dimensions, fill, arc.Bird, House, side & top view of pencil holder, dimensions, ruler design template, personalised ruler design. Independently CAD drawn design of the rulerInsert vectorised image Manufacturing of the ruler – using laser cutterPhotograph and evaluate final product | **Wooden desk tidy**Initial design ideasIndependently hand drawn and CAD designs of the desk tidyFinal Design idea for wooden desk tidyCAD skills (development of 3D SketchUp drawing ICT) H&S workshop and tasksMaking desk tidy Photograph and evaluate product |
| **Key Building Blocks** | **Y7 Baseline assessment**An initial assessment of the skill set the Y7 arrive with. This will assess the subject area and provide staff with a more accurate picture of each student’s knowledge and understanding at the beginning of KS3. The baseline grade will be standardised across the faculty.**Acrylic pencil holder**H&S in the workshopUnderstanding the different properties and uses of different thermoset and thermoform plasticsDesign ideas and development of iterationsCard modelling to develop further iterationsConstruction of a final product (acrylic pencil holder)Measuring and marking out material, drilling, and forming/line-bendingEvaluate, peer evaluate and discuss the classes productsExtension: Hard materials – further use of workshop tools | **CAD tutorials and laser-cut ruler** CAD skills learning to use 2D design to run the laser cutter.H&S in the workshopUnderstanding the different properties and uses of different thermoset and thermoform plasticsDesign ideas and development of iterationsCAD modelling to develop further iterationsConstruction of a final product (acrylic ruler)Evaluate, peer evaluate and discuss the classes productsExtension: Hard materials – further use of workshop tools | **Wooden desk tidy**H&S in the workshopUnderstanding the different properties and uses of wood and manufactured boardIndustrial processes Design ideas and development of iterationsCAD modelling to develop further iterationsConstruction of a final product (wooden desk tidy)Measuring and marking out material, sawing, gluing, drilling, sanding, finishing and CAD/laser-cuttingEvaluate, peer evaluate and discuss the classes productsExtension: Hard materials – further use of workshop tools |
| **Retrieval Practices** | Do Now activitiesLow stakes quizzesInterleaved themes  | Do Now activitiesLow stakes quizzesInterleaved themes  | Do Now activitiesLow stakes quizzesInterleaved themes  |
| **Key Skills** | H&S in the workshopMeasuring and marking outDrawing Skills Modelling SkillsPractical workshop skills: use of various hand tools and machines | CAD skills and ICTMeasuring and adding dimensionsKnowledge and understanding of CAM  | H&S in the workshopMeasuring and marking outDrawing Skills CAD Modelling SkillsPractical workshop skills: use of various hand tools and machines  |
| **Literacy** | Written & Oral communicationDisciplinary literacy Vocab developmentKey words | Written & Oral communicationDisciplinary literacy Vocab developmentKey words | Written & Oral communicationDisciplinary literacy Vocab developmentKey words  |
| **Numeracy** | The decimal system—mm, cm and meters – practicing measuring and marking out3D shapes in virtual and physical.Geometric terms: Horizontal, Vertical, Height, Width, Depth, Parallel  | The decimal system—mm, cm and meters – practicing measuring and marking outRatios of the 2D page when designing ruler. 3D shapes in virtual and physical.Radius, Diameter. Geometric terms: Horizontal, Vertical, Height, Width, Depth, Parallel. | The decimal system—mm, cm and meters – practicing measuring and marking out3D shapes in virtual and physical.Geometric terms: Horizontal, Vertical, Height, Width, Depth, Parallel  |
| **Formative Assessment** | Peer & Self-AssessmentTeacher feedback | Peer & Self-AssessmentTeacher feedback | Peer & Self-AssessmentTeacher feedback |
| **Summative Assessment** | Baseline Assessment | AP1 | AP2 |
| **Social** | Impact of plastics on the environment and the different materials that could be used. Use of social skills will be developed heavily in terms of helping, aiding other students and waiting for a turn to use a machine. Working together as a team. Gender issues: encouraging girls to use equipment that has been traditional male dominated. |
| **Moral** | Encouraging pupils to value the environment and its nature resources and to consider the environmental impact of everyday products. Encouraging pupils to become responsible consumers. The effects of advanced automation has had on the environment. Behaviour policy and reinforcing positive behaviours within the technology classroom.  |
| **Spiritual** | DT allows pupils the opportunity to exercise imagination, inspiration, intuition and insight through creativity and risk taking. Promoting a sense of awe and wonder and introducing students to new materials to explore (plastics/wood) and new machines. The awe and wonder of machinery and engineering and taking an idea from a thought, to a physical product that could theoretically be mass produced and sold. |
| **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 |