



Year 7 Curriculum Overview: Design & Technology; Textiles



	Topics/ content outline:	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Term	Graffiti Pencil case 1. Health and Safety in Textile 2. Analysis of a Design Brief 3. Theme research including an image board. 4. Initial ideas for a block/stamp 5. Development of ideas 6. Repeat design using sketchbook 7. Trailing stamp on ongoing evaluation 8. Printing repeat design 9. Laminating fabrics	<ul style="list-style-type: none"> Textiles room hazards and risks Working to a Design Brief Break down a context using a mind map Fibre characteristics Fabric finishes Drawing skills CAD repeat pattern Specific Keywords; Design Brief, Task Analysis, Client, Annotation, laminating, fusing	Low stake Tests Design and developed ideas Teacher Assessment Manufacturing Stamp Peer Assessment Printing Self-Assessment	Resources for the Graffiti Pencil Case project are stored in Showbie. Encourage sketching practise. Encourage revision for the LST's. Pupils to develop their revision skills to suit their learning style.
	10. Inserting a zip 11. Constructing the pencil case 12. Evaluation and final assessment 1. Health and Safety in Textile 2. Analysis of context 3. Theme research including an image board. 4. Initial ideas for a block/stamp 5. Development of ideas	<ul style="list-style-type: none"> Threading a sewing machine independently Working with fabric right side to right side Specific Keywords; thread guide, balancing wheel, spool, tension, Evaluation As above for rotation two	Final Project Teacher Assessment End of project test As above for rotation two	As above for rotation two
Spring Term (Rotate at February half term)				
Summer Term	6. Repeat design using sketchbook 7. Trailing stamp on ongoing evaluation 8. Printing repeat design 9. Laminating fabrics 10. Inserting a zip 11. Constructing the pencil case 12. Evaluation and final assessment	As above for rotation two	As above for rotation two	As above for rotation two



Year 7 Curriculum Overview: **Design & Technology; Design Materials**



	Topics/ content outline:	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Term	Gravity Racer 1. Workshop safety routines-hazard & risk 2. Safety poster 3. Measuring items in mm 4. Marking out from a working drawing 5. Drilling assessment 6. 2D drawing with equipment 7. Creating a working drawing 8. Mechanical fittings 9. Cutting Metal & Chassis and wheel assembly 10. Testing the Gravity Racer 11. Race Day & Evaluation	<ul style="list-style-type: none"> Workshop and classroom hazard / risk Using mm for measuring and marking out 2D Drawing Skills Safe operation of drilling machines Cutting and filing metal Mechanical fittings Testing the Gravity Racer Celebration Race Day <p>Specific Keywords; Drilling machine, Soldering Irons, Bench and Vice, Length, width, thickness, Datum, Steel Rule, Engineers Square, Chassis, HIPs – High Impact Polystyrene Sheet</p>	Low stake Tests Drilling Self Assessment Measuring Teacher Assessment Final Project Peer Assessment End of project test	<p>Resources for the Gravity Racer project are stored in Showbie.</p> <p>Encourage sketching practise.</p> <p>Encourage revision for the LST's.</p> <p>Pupils to develop their revision skills to suit their learning style.</p>
Spring Term	Flo Glow 1. Client Profile 2. Designing the silhouette- Sketching 3. Sketchbook (on iPad) – developing the silhouette outline/template. 4. Marking out the PCB- drill strain holes 5. PCB Drills & Soldering introduction 6. Soldering and testing the circuit 7. Cardboard Silhouette – Final Design 8. Polymers theory and line bending 9. Assembly and Testing 10. Evaluation	<ul style="list-style-type: none"> Making the PCB Client Profile Creative Design Product Development Card Model Line Bend Assembly of Electronic Products <p>Specific Keywords; Strain holes, Printed Circuit Board (PCB), PCB pillar hole, components, Light emitting diode, resistor, circuit, circuit diagram</p>	Low stake Tests Design Peer Assessment Soldering Self Assessment Final Lamp Product Teacher Assessment End of project test	<p>Resources for the Flo Glow Lamp project are stored in Showbie.</p> <p>Encouragement to notice the world of technology and new product development.</p> <p>If asked, become a client for the Flo Glow Lamp project, answering questions and supporting the design process.</p>
Summer Term	Game in a Box 1. Sustainability 2. Design Brief & Specification 3. Initial Design 4. Marking square lines on wood 5. Gameboard CAD design 6. Hand sanding wood 7. Operating Sanding Machines 8. Wood adhesive 9. Marking and cutting curved shapes in wood 10. Using the hegner saw 11. Finishing wood 12. Injection moulding plastic	<ul style="list-style-type: none"> Sustainability in Product Design Measuring and marking up of wood materials Sawing, sanding and assembling plywood Designing 2D graphics to promote sustainability. Developing CAD skills on the iPad; Sketchbook Using the scroll saw Production Lines Applying finishes to wood surfaces Injection Moulding and 3D Printing <p>Specific Keywords; Try Square, Tenon Saw, Bench Hook, Sanding machine, Sanding Sealer, Wood Wax, Sustainability, Reduce, Reuse, Recycle</p>	Low stake tests Cutting Wood Teacher Assessment Sanding Machine Self Assessment Final Product Peer Assessment End of project test	<p>Resources for the Game in a Box project are stored in Showbie.</p> <p>Encourage sketch practise and play board games to help with the project context.</p> <p>Additional design and technology resources can be found on the following websites; www.technologystudent.com https://www.bbc.co.uk/bitesize/examspecs/zby2bdm</p>



Year 8 Curriculum Overview: Design & Technology; Textiles



	Topics/ content outline:	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Term	Bucket Hat 1.Working to a brief 2. Analysis of Context 3.Product Analysis 4.Fibres 5.Fabrics, focus of weaving 6.Afercare 7.Resist method, focus of tie dye 8. Specification 9. Lay plan/pattern making 10. Manufacture of bucket hat 11. Testing 12. Evaluation	Specific Keywords; contextual, natural cellulose, warp, weft, selv edge, raw edge, fray, twill weave, resist, sizing.	Low stake Tests Design and developed ideas Teacher Assessment Manufacturing Stamp Peer Assessment Printing Self-Assessment	Resources for the bucket hat and E cuff projects are stored in Showbie. Encourage sketching practise. Encourage revision for the LST's. Pupils to develop their revision skills to suit their learning style.
Spring Term (Rotate at February half term)	E Cuff 1 Bucket Hat 1.Working to a brief 2. Analysis of Context 3.Product Analysis 4.Fibres 5.Fabrics, focus of weaving 6.Afercare 7.Resist method, focus of tie dye 8. Specification	Specific Keywords; component, polarity, ergonomics, anthropometrics As above for rotation two		
Summer Term	9. Lay plan/pattern making 10. Manufacture of bucket hat 11. Testing 12. Evaluation E Cuff 1. 2.	As above for rotation two	As above for rotation two	As above for rotation two



Year 8 Curriculum Overview: **Design & Technology; Design Materials**



	Topics/ content outline:	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Term	<p>Electronic Game</p> <ol style="list-style-type: none"> 1. Design brief and specification 2. Drilling PCB & Soldering 3. Microcontrollers theory 4. Testing electronic games 5. Testing the game 6. CAD sketchbook 7. 3D Isometric drawing 8. CAD Onshape 9. CAD Corel Draw 10. Assembly and circuit testing 	<ul style="list-style-type: none"> • Working with PCBs • Soldering new components • Microcontrollers • Designing Nets • Computer Aided Design – iPad Sketchbook • Computer Aided Design - PC Corel Draw • Making and assembling nets / packaging electronics • Testing and evaluating game design <p>Specific Keywords: PCB Drill, Side Cutters, Coloured LED, Microcontroller, Chip Seat, Craft Knife, Safety Ruler, CAD (Computer Aided Design), CAM (Computer Aided Manufacture), Polarised</p>	<p>Low stake Tests</p> <p>Logo Design Peer Assessment</p> <p>Final Project Self Assessment</p> <p>End of project test</p>	<p>Resources for the Electronic Game project are stored in Showbie.</p> <p>Encourage CAD sketching on the iPad for practise.</p> <p>Encourage revision for the LST's.</p> <p>Pupils to develop their revision skills to suit their learning style.</p>
Spring Term	<p>Clock Project</p> <ol style="list-style-type: none"> 1. Famous designers 2. Design Brief and specification 3. 2D technical drawing 4. 3D Oblique drawing 5. CAD Onshape 3D CAD 6. Vacuum forming mould 7. Vacuum forming and working with HIPs 8. Clock Product Assembly 9. Testing and Evaluation 	<ul style="list-style-type: none"> • Create a unique Design Brief and Specification • 2D and 3D technical sketching • 2D and 3D technical CAD: Onshape 3D files • Develop with client feedback • About Thermoplastics /Thermosetting plastics • Making the mould for forming • Vacuum forming and finishing High Impact Polystyrene Sheet <p>Specific Keywords: Datum, Datum point, centre line, construction lines, reference points, thermoplastic, thermosetting, High impact Polystyrene sheet, Vacuum forming</p>	<p>Low stake Tests</p> <p>Design Ideas Peer Assessment</p> <p>Final Project Teacher Assessment</p> <p>End of project test</p>	<p>Resources for the Clock project are stored in Showbie.</p> <p>Encourage technical drawing and CAD sketching on the iPad.</p> <p>Encourage revision for the LST's.</p> <p>Pupils to develop their revision skills to suit their learning style.</p>
Summer Term	<p>Engineering Challenges</p> <ol style="list-style-type: none"> 1. Flexangle - Paper/ card engineering design 2. Architectural sketching - 2D / 3D thinking 3. Faraday Challenge 4. Foodtruck designs 5 	<ul style="list-style-type: none"> • Working to scale • 2D to 3D thinking • Innovation thinking • Folding and cutting complex shapes • Architecture Industry • Problem solving • Working in teams • Sign writing • Vinyl Cutter <p>Specific Keywords: Commercial scale, innovation, creative risk, evaluation, STEM (Science, Technology, Maths and engineering), Orthographic Projection</p>	<p>Reflection and Review - Peer Assessment</p> <p>Self-Assessment of creative tasks</p> <p>End of project feedback and personal target setting</p>	<p>Resources for the Engineering are stored in Showbie.</p> <p>Visit these websites: The Institution of Engineering and Technology, STEM.org.uk, Dysoninstitute.com</p> <p>Pupils can share and repeat these challenges at home and have another go to perfect their creative thinking.</p>



Year 9 Curriculum Overview: Design & Technology; Textiles



	Topics/ content outline:	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Term	<p>Cultural Bag</p> <ol style="list-style-type: none"> 1. Writing a design brief 2. Composition theory 3. Colour theory 4. CAD 5. CAM 6. Production Plan 7. Resist Dye Techniques 8. Fibres and Fabric 	<ul style="list-style-type: none"> • Coursework research techniques: Identifying the customer needs and wants. • Design skills: Demonstrate scale, depth and colour, Developing CAD: repeat patterns and manipulating colour palettes. • CAM: investigating printing techniques • Resist dye techniques: sampling traditional methods to embellish fabric • Research skills: investigation of others and fabrics and fibres analysis. <p>Specific Key words: Batik, Tie Dye, Transfer, Heat press, Colour palette, stencil, cotton, combed, carded, Composition.</p>	<p>Low stake Tests</p> <p>Teacher Assessment of Designs</p> <p>Peer Assessment of sampling techniques</p> <p>Self-Assessment of composition</p>	<p>Resources for the bag are stored in showbie / Yr 9 / Textiles / Cultural bag.</p> <p>Encourage sketching and composition work. Encourage revision for LST ,pupils can access showbie for this and try different techniques?</p> <p>Encourage watching the Great British sewing Bee</p> <p>Support pupils obtaining the fabric and trims to make the bag from.</p>
Spring Term	<p>Cultural Bag</p> <ol style="list-style-type: none"> 1..Creating a pattern 2..Fabric marking 3.Fabric panel cutting 4M anufacturing 5.Lining 6.Evaluation 	<ul style="list-style-type: none"> • Pattern Making: measurement, planning, markings, lay plans • Manufacturing: 2D shapes into 3D forms. Fabric placement and cutting, production plan, using machine and hand equipment skills. • Testing and analysis: Evaluating the bag against anthropometrics and aesthetics. <p>Specific Key words: grain, pattern markings, selvedge, seam allowance, lining, bagging out, cellulose, regenerated, natural, synthetic, felting, woven, knitted.</p>	<p>Low stake Tests</p> <p>Self-Assessment of completed product.</p>	<p>Resources for the bag are stored in showbie / Yr 9 / Textiles / Cultural bag.</p> <p>Encourage completion of embellishment at home. Encourage revision for LST ,pupils can access showbie for this and try different techniques?</p> <p>Encourage watching the Great British sewing Bee</p>
Summer Term	<p>Shorts</p> <ol style="list-style-type: none"> 1. Research of design technique and sustainability in clothing. 2. Sampling techniques 3. Analysis of existing products and initial design ideas 4. M anufacturing specification 5. Developing and fitting a prototype 6. M anufacturing and manipulation of fabric 7. Evaluation analysis. 	<ul style="list-style-type: none"> • Research skills: traditional prints, Market research and sustainability safety and moral standards in the industry. • Sketching techniques: CAD fashion illustration and bespoke design ideas. • Skills: Pattern block , sampling machine techniques and analysing for end use, creating pockets and styling details. • Modelling: creating a toile prototype and manipulating to consider measurements and aesthetics and evaluating for improvement. • Specification: detailing fabric components. <p>Specific Key words: notch, grain line, dart, ruffle, toile, applique, knife pleat.</p>	<p>Low stake tests</p> <p>Teacher Assessment of image board, driving test and samples.</p> <p>Self-Assessment of initial design ideas, shop report and analysis.</p>	<p>Resources for the short are stored in showbie / Yr 9 / Textiles / short</p> <p>Encourage sustainability research.</p> <p>Encourage watching the Great British Sewing Bee.</p> <p>Provide no longer needed garments and fabric items to be brought into school to reuse for making the shorts.</p>



Year 9 Curriculum Overview: Design & Technology; Resistant Materials



	Topics/ content outline:	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Term	<p>Balance Lamp;</p> <ol style="list-style-type: none"> 1. Marking-up 2. Timber processing through subtraction 3. Aluminium processing 4. Electronics 5. Assembly skills using JIGs and standard components 6. 2D and 3D hand sketching 	<ul style="list-style-type: none"> • Timber manufacturing knowledge; Marking up, sawing by machine and hand, sanding by machine and hand, drilling and assembly by machine and hand • Metalwork manufacturing techniques; Marking up, cutting and filing by machine and hand, drilling by machine, assembly processes • Sketching techniques in 2D & 3D oblique and perspective <p>Specific Keywords; (all marking up equipment) engineers blue, scribe, scratch, cross and draw filing, metalwork vice, buffing, JIGS, personalised design.</p>	<p>Low Stake Test (LST) on several areas</p> <p>Teacher Assessment of marking up and sawing</p> <p>Self-Assessment of the lamp assembly</p>	<p>Resources for the balance lamp project are stored in Showbie / 97/Dm1 DT Resistant Materials / Balance lamp</p> <p>Encourage sketching practise Encourage revision for the LST's. Pupils to develop their revision skills to suit their learning style.</p> <p>If asked, become a client for the Balance Lamp project, answering questions and supporting the design process.</p>
Spring Term	<ol style="list-style-type: none"> 7. Location research and redesign. 8. CAD using OnShape 9. Bespoke design manufacturer 10. Finishing Techniques <p>Passive Amplifier;</p> <ol style="list-style-type: none"> 1. Context analysis and situation. 2. Client and location research 3. Brief and Specification 	<ul style="list-style-type: none"> • Creativity through bespoke design and sketching skills • Research skills – investigation of others • Developing CAD through OnShape • Using CAD/CAM for laser cutting • GCSE coursework techniques to investigate the context of the 'passive amplifier' • Coursework research technique to develop and appropriate design for a specific client. <p>Keywords; Finishing, Context analysis, Mind map, Client Profile, Brief & Specification</p>	<p>Low Stake Test (LST) on several areas</p> <p>Peer assessment of the final product. Core knowledge end of topic test.</p> <p>Teacher assessment of the Brief & Specification Low Stake Test (LST) on several areas</p>	<p>Resources for the Passive Amp project are stored in Showbie / 97/Dm1 DT Resistant Materials / Passive Amplifier</p> <p>Pupils will be introduced to using a design portfolio in MS Teams to evidence their work.</p> <p>If asked, become a client for the Passive Amplifier project, answering questions and supporting the design process.</p> <p>Support revision for the end of topic test.</p>
Summer Term	<ol style="list-style-type: none"> 4. Initial Ideas using 2D and 3D techniques. 5. Work of others inspirational research to develop idea 6. Paper and card modelling 7. Developed layered design 8. CAD Technical drawing 9. Manufacture of the bespoke passive amplifier 10. Evaluation of the product 	<ul style="list-style-type: none"> • Creativity through design, using sketching techniques and different research to develop individual ideas. • Modelling Skills developed in paper and card • Testing and analysis of ideas through iterative design to prepare for manufacture . • CAD drawing skills in OnShape to create an accurate technical drawing of each part. • Manufacture using machines and hand tools knowledge and skills developed throughout year 7-9. <p>Keywords; Design Fixation, Initial Ideas, Work of Others, Inspiration, design development, Modelling, Analysis & Evaluation</p>	<p>Low Stake Test (LST) on several areas</p> <p>Self assessment of the technical drawing</p> <p>Peer assessment of the final product</p>	<p>Additional design and technology resources can be found on the following websites;</p> <p>www.technologystudent.com</p> <p>https://www.bbc.co.uk/bitesize/examspecs/zby2bdm</p>



Year 9 Curriculum Overview: **Design & Technology; Electronics**



	Topics/ content outline:	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Term	<p>Project 1: Music Box</p> <ol style="list-style-type: none"> 1. Component Knowledge 2. Making the PCB & soldering 3. Coding using Blockly 4. Task analysis 5. Client Profile 6. Design Situation & Brief 	<ul style="list-style-type: none"> • Printed Circuit Board (PCB) manufacturing skills; small scale drilling, component recognition, soldering and testing. • Coding Skills; using Blockly software and completing a series of challenges, complete tasks in the Picaxe tune wizard • Research and investigation skills; task analysis, client profiling • Create a design situation and design brief <p>Specific Keywords; Input, process, output, Microcontroller, chipseat, resistor, push to make switch, piezo buzzer, download socket., track side</p>	<p>LST's throughout</p> <p>Exam style questions</p> <p>Self-assessment; Soldering</p> <p>Teacher assessment; Soldering</p>	<p>Resources for the Music Box project are stored in Showbie / 9?/De1 DT Electronics / 01 Music Box</p> <p>Encourage sketching practise Encourage revision for the LST's. Pupils to develop their revision skills to suit their learning style.</p> <p>Support with pupils accessing https://blockly.games/ for additional coding practice.</p> <p>Support revision for the end of topic test.</p>
Spring Term	<ol style="list-style-type: none"> 7. CAD design 8. CAM outputs <p>Project 2: Torch</p> <ol style="list-style-type: none"> 1. Populate the PCB 2. Task Analysis 3. Product Analysis 4. Design Possibilities 	<ul style="list-style-type: none"> • CAD - Develop CoralDraw skills to create "D technical drawings • CAM – output the casing designs to the laser cutter, developing CAM programming skills. • Portfolio through MS Teams; upskilling pupils Microsoft skills to evidence their design project. • Task and Product Analysis; building research, analysis and evaluation skills. • Design Ideas; explored through sketching 	<p>Self-assessment of end product.</p> <p>End of Topic Test</p> <p>Torch Project: LST's throughout</p> <p>Teacher Assessment on design possibilities</p>	<p>Resources for the Passive Amp project are stored in Showbie / 9?/De1 DT Electronics / Torch</p> <p>Pupils will be introduced to using a design portfolio in MS Teams to evidence their work.</p> <p>Answer the design possibilities feedback survey.</p> <p>Support revision for the end of topic test.</p>
Summer Term	<ol style="list-style-type: none"> 4. Paper Modelling 5. Final Prototype Manufacture 6. Assembly 7. Evaluation 	<ul style="list-style-type: none"> • Paper Modelling; creating different ideas in 3D forms to test the design ideas. • Manufacturing; using a broad range of processes to test the best for the pupils individual design; scroll saw, injection moulding, reflector with foil, net assembly, card mould modelling, vacuum forming. • Diary of Manufacture; evidence ongoing tasks, Health & Safety and Quality Control. • CAD; virtual final design output <p>Specific Keyword; product analysis, prototype, diary of manufacture, quality control, portfolio</p>	<p>LST's throughout</p> <p>Self Assessment of the final prototype</p> <p>Final assessment – end of topic test</p>	<p>Additional design and technology resources can be found on the following websites;</p> <p>www.technologystudent.com</p> <p>https://www.bbc.co.uk/bitesize/examspecs/zby2bdm</p>



Year 10 Curriculum Overview: Design & Technology; Textiles



	Topics/ content outline:	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Term	<ol style="list-style-type: none"> 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 			<p>Projects; Encouraging pupils to complete the homework tasks in a timely manner.</p> <p>Remind pupils that all resources, exemplars and guidance can be found in Showbie.</p> <p>Remind pupils that all work should be completed within their Teams PowerPoint portfolio.</p> <p>Both of these are accessible on their iPad or through any web browser.</p>
Spring Term	<ol style="list-style-type: none"> 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 			<p>Core Knowledge: Encourage pupils to complete the core exam homework's and create independent retention and recall tasks to support their knowledge.</p> <p>Additional design and technology resources can be found on the following websites; www.technologystudent.com https://www.bbc.co.uk/bitesize/examspecs/zby2bdm</p>
Summer Term	<p>From June; GCSE NEA Coursework Section A;</p> <ul style="list-style-type: none"> Context Analysis Design Possibilities Target market research Client profile Work of Others Mock exam 	<ul style="list-style-type: none"> AQA release three contexts for the D&T coursework on 1st June. This represents 50% of pupils D&T grade and runs from June in year 10 until Feb in year 11. NEA coursework, section A, research & investigation; pupils use the skills and knowledge developed up to this point to work through a series of research and investigation tasks focused on their chosen coursework context. Year 10 mock exam; in June or July 	<p>NEA Coursework feedback is provided by the teacher as class feedback, individual feedback does not meet the exam boards specification requirements.</p> <p>Pupils use the coursework mark criteria and the checklists to self-assess and improve their work at each stage.</p> <p>Mock exam is a shortened exam paper designed to test the most common question types.</p>	<p>Encouraging pupils to complete the coursework tasks in a timely manner.</p> <p>Support the coursework by answering surveys, providing design feedback, potentially being a client for the duration of the coursework.</p> <p>Encourage pupils to revise for the mock exam.</p> <p>Additional design and technology resources can be found on the following websites; www.technologystudent.com https://www.bbc.co.uk/bitesize/examspecs/zby2bdm</p>



Year 10 Curriculum Overview: **Design & Technology; Resistant Materials**



	Topics/ content outline:	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Term	<p>Project 1 – Slider Box;</p> <ol style="list-style-type: none"> CAD – OnShape skills CAD – manufacturing specification (D of NEA) Manufacturing of slider box Diary of Making 2D and 3D sketching skills <p>Mini Project 2 – Polymers;</p> <ol style="list-style-type: none"> Polymer Processes <p>Core Knowledge – follow textbook</p>	<ul style="list-style-type: none"> CAD OnShape skills to create a working design, output technical drawings to use to manufacture the slider box. Manufacturing of the slider box using sawing, sanding, drilling, quality control, assembly, finishing techniques. Evidence of manufacturing skills through the diary of making. 2D and 3D sketching skills threaded throughout. Polymer processing using the vacuum former, line bender and oven forming with moulds. Core D&T Knowledge taught through a series of mini knowledge lessons building for the exam. <p>Specific new keywords; Mitre saw, router, chamfer, housing joint, lap joint, oven forming</p>	<p>Teacher assessment of OnShape; first part, completed assembly & rendering</p> <p>Self-assessment of practical skills</p> <p>Peer assessment of sketching skills and Diary of making</p> <p>Core knowledge – practise exam questions, Low Stake Tests and a mini exam.</p>	<p>Projects; Encouraging pupils to complete the homework tasks in a timely manner.</p> <p>Remind pupils that all resources, exemplars and guidance can be found in Showbie.</p> <p>Remind pupils that all work should be completed within their Teams PowerPoint portfolio.</p> <p>Both of these are accessible on their iPad or through any web browser.</p>
Spring Term	<p>Project 3 – Tiny Spaces, practise NEA</p> <ol style="list-style-type: none"> Context & design possibilities Client profile Brief & specification Idea generation Work of Others Product Analysis Design development Tenth scale modelling Evaluation <p>Core Knowledge – follow textbook</p>	<ul style="list-style-type: none"> NEA coursework, section A, research & investigation Pupils write their individual design brief and specification based on their research and investigation. This informs their design journey. Pupils explore design ideas using the iterative process of design, test, analyse, redesign, continue. Pupils develop their clients chosen design, through paper and card modelling with some plywood and polymer elements, using the skills developed in year 7-10. Core D&T Knowledge taught through a series of mini knowledge lessons building for the exam. <p>Specific new keywords; Analysis, evaluate, iterative, perspective, scale, ergonomics, anthropometrics</p>	<p>Teacher assessments of design possibilities, work of others & manufacturing</p> <p>Self-assessment of client profile, modelling and evaluation</p> <p>Peer assessment of brief & specification, modelling.</p> <p>Core knowledge – practise exam questions, Low Stake Tests and a mini exam.</p>	<p>Core Knowledge: Encourage pupils to complete the core exam homework's and create independent retention and recall tasks to support their knowledge.</p> <p>Additional design and technology resources can be found on the following websites; www.technologystudent.com https://www.bbc.co.uk/bitesize/examspecs/zby2bdm</p>
Summer Term	<p>From June; GCSE NEA Coursework Section A;</p> <ul style="list-style-type: none"> Context Analysis Design Possibilities Target market research Client profile Work of Others Mock exam 	<ul style="list-style-type: none"> Manufacturing; through model making and tenth scale prototypes. Evaluation skills. AQA release three contexts for the D&T coursework on 1st June. This represents 50% of pupils D&T grade and runs from June in year 10 until Feb in year 11. NEA coursework, section A, research & investigation; pupils use the skills and knowledge developed up to this point to work through a series of research and investigation tasks focused on their chosen coursework context. Year 10 mock exam; in June or July 	<p>NEA Coursework feedback is provided by the teacher as class feedback, individual feedback does not meet the exam boards specification requirements.</p> <p>Pupils use the coursework mark criteria and the checklists to self-assess and improve their work at each stage.</p> <p>Mock exam is a shortened exam paper designed to test the most common question types.</p>	<p>NEZ Coursework: Encouraging pupils to complete the coursework tasks in a timely manner.</p> <p>Support the coursework by answering surveys, providing design feedback, potentially being a client for the duration of the coursework.</p> <p>Encourage pupils to revise for the mock exam.</p>



Year 10 Curriculum Overview: **Design & Technology; Electronics**



	Topics/ content outline:	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Term	<p>Modular Circuit Project</p> <ol style="list-style-type: none"> 1. Soldering the process board 2. Breadboarding 3. Coding 4. Coding Challenge <p>Core Knowledge – follow textbook</p>	<ul style="list-style-type: none"> • Multifunctional modular circuit manufacture. Process evidence • Breadboarding skills to develop bespoke circuits. • Printed Circuit Board (PCB) manufacturing skills; • Coding Skill and challenges; using Blockly software and completing a series of challenges, complete tasks in the Picaxe tune wizard <p>Specific Keywords; Input, process, output, 7 segment display, Microcontroller, chipseat, resistor, push to make switch, piezo buzzer, download socket. Single and multicore wire, photo transistor, track side</p>	<p>Low Stake Tests throughout the curriculum</p> <p>Teacher, self and peers assessments threaded throughout the project.</p> <p>Core knowledge – practise exam questions, Low Stake Tests and a mini exam.</p>	<p>Projects; Encouraging pupils to complete the homework tasks in a timely manner.</p> <p>Remind pupils that all resources, exemplars and guidance can be found in Showbie.</p> <p>Remind pupils that all work should be completed within their Teams PowerPoint portfolio.</p> <p>Both of these are accessible on their iPad or through any web browser.</p>
Spring Term	<p>Modular Circuit Project</p> <ol style="list-style-type: none"> 1. Client research 2. Making a PCB 3. Making the Casing 4. Testing & Evaluation <p>Core Knowledge – follow textbook</p>	<ul style="list-style-type: none"> • Research and investigation skills; task analysis, a target market survey and client profile • Create design situation and design brief. • Initial ideas of the bespoke circuit using circuit wizard • Complete a product analysis to expand design ideas. • Manufacture your bespoke PCB using circuit wizard, printing and acid etching • Manufacture of the casing using timber and polymer processes. • Evaluation against the brief and specification. <p>Specific keywords; product analysis, situations, circuit wizard, acid etching,</p>	<p>Low Stake Tests throughout the curriculum</p> <p>Teacher, self and peers assessments threaded throughout the project.</p> <p>Core knowledge – practise exam questions, Low Stake Tests and a mini exam.</p>	<p>Core Knowledge: Encourage pupils to complete the core exam homework's and create independent retention and recall tasks to support their knowledge.</p> <p>Additional design and technology resources can be found on the following websites; www.technologystudent.com https://www.bbc.co.uk/bitesize/examspecs/zby2bdm</p>
Summer Term	<p>From June; GCSE NEA Coursework Section A;</p> <ol style="list-style-type: none"> 1. Context Analysis 2. Design Possibilities 3. Target market research 4. Client profile 5. Work of Others <ul style="list-style-type: none"> • Mock exam 	<ul style="list-style-type: none"> • AQA release three contexts for the D&T coursework on 1st June. This represents 50% of pupils D&T grade and runs from June in year 10 until Feb in year 11. • NEA coursework, section A, research & investigation; pupils use the skills and knowledge developed up to this point to work through a series of research and investigation tasks focused on their chosen coursework context. • Year 10 mock exam; in June or July 	<p>NEA Coursework feedback is provided by the teacher as class feedback, individual feedback does not meet the exam boards specification requirements.</p> <p>Pupils use the coursework mark criteria and the checklists to self-assess and improve their work at each stage.</p> <p>Mock exam is a shortened exam paper designed to test the most</p>	<p>Encouraging pupils to complete the coursework tasks in a timely manner.</p> <p>Support the coursework by answering surveys, providing design feedback, potentially being a client for the duration of the coursework.</p> <p>Encourage pupils to revise for the mock exam.</p> <p>Additional design and technology resources can be found on the following websites; www.technologystudent.com https://www.bbc.co.uk/bitesize/examspecs/zby2bdm</p>



Year 11 Curriculum Overview: **Design & Technology; All material specialisms**



	Topics/ content outline:	Powerful Knowledge (key concepts, skills)	NEA Coursework feedback is provided by the teacher as class feedback, individual feedback does not meet the exam board specification requirements. What will you be assessed on?	How can you help at home?
Autumn Term	<p>B - Brief & Specification</p> <p>C - Generating Design Ideas;</p> <ol style="list-style-type: none"> 1. Idea Sketching 2. Initial development 3. Design experimentation 4. Use of design strategies <p>D – Dev eloping Design Ideas;</p> <ol style="list-style-type: none"> 1. Dev elopment of design 2. Modelling 3. Material testing 4. Manufacturing specification 	<ul style="list-style-type: none"> • Pupils write their individual design brief and specification based on their research and investigation. This informs their design journey. • Pupils explore design ideas using the iterative process of design, test, analyse, redesign, continue. • Pupils develop their clients chosen design, preparing it for manufacture. • Core exam knowledge covered in recall tasks throughout the NEA coursework. • Core exam knowledge is tested in a full D&T mock exam. 	<p>Pupils use the coursework mark criteria and the checklists to self-assess and improve their work at each stage.</p> <p>Mock exam is a shortened exam paper designed to test their existing knowledge and question answering techniques. Encouraging pupils to complete the coursework tasks in a timely manner.</p> <p>Remind pupils that all resources, exemplars and guidance can be found in Showbie.</p> <p>Remind pupils that all work should be completed within their Teams PowerPoint portfolio in their private channel.</p>	<p>Encouraging pupils to complete the coursework tasks in a timely manner.</p> <p>Remind pupils that all resources, exemplars and guidance can be found in Showbie.</p> <p>Remind pupils that all work should be completed within their Teams PowerPoint portfolio in their private channel.</p> <p>Both of these are accessible on their iPad or through any web browser.</p>
Spring Term	<p>E – Realising Desing Ideas</p> <ol style="list-style-type: none"> 1. Manufacturing the design prototype 2. Evidence of manufacture <p>F – Analysing & Ev aluating</p> <ol style="list-style-type: none"> 1. Evidence of design iterations 2. Testing of Prototype 3. Ongoing analysis & ev aluation <p>D&T Exam Revision</p>	<ul style="list-style-type: none"> • Pupils manufacture their product from their chosen materials, using the skills and knowledge built over the past five years. • The project concludes with overall analysis and evaluation of the completed prototype, with feedback from the client and future modifications. • Core exam revision within lesson time and for homework, focusing on recall of the topics and knowledge developed throughout year 10 & 11, practise on exam question techniques and recall techniques. 	<p>Both of these are accessible on their iPad or through any web browser.</p> <p>Pupils will complete small amounts of core recall tasks during the NEA.</p> <p>Once revising, pupils will practise exam questions and teachers will provide feedback on techniques and knowledge, as required,</p>	<p>Support pupils with the final deadline, some may need to attend extra sessions after school to complete tasks.</p> <p>Please support pupils to create a revision plan for all subject areas, including D&T.</p> <p>Those that also attend Engineering will have some cross-over knowledge that will support both subjects.</p>
Summer Term	D&T Exam Revision up until pupils leave for exams.	<ul style="list-style-type: none"> • Core exam revision within lesson time and for homework, focusing on recall of the topics and knowledge developed throughout year 10 & 11, practise on exam question techniques and recall techniques. 	Pupils will continue to work on retaining and recalling D&T knowledge and use this to practise exam questions and teachers will provide feedback on techniques and knowledge, as required,	<p>Support pupils with their exam preparation and revision.</p> <p>Additional design and technology resources can be found on the following websites; www.technologystudent.com https://www.bbc.co.uk/bitesize/examspecs/zby2bdm</p>