|  |  |  |
| --- | --- | --- |
| A picture containing text  Description automatically generated | DT Curriculum | AUTUMN 2023 |
|  | YEAR 7 | YEAR 8 | YEAR 9 | YEAR 10 | YEAR 11 |
| AUT 1 TOPIC | Fundamentals. Small Focussed Tasks. | Mechanisms and structures | Desktop games | Bricklaying (Unit 6) and Carpentry (Unit 7) Unit A1 Being Organised | Bricklaying & Planning for the future. (Unit A2) |
| Key Focus | Intro to Health and Safety.Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge | Recap Health and Safety.Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge | Recap Health and Safety.Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge | Tools, equipment and machinery recognition for both trades.Types of Walls used in bricklaying.Types of wooden joints used in carpentry | Tools, equipment and machinery recognition for bricklaying.Types of Walls used in Bricklaying. |
| SubstantiveKnowledge | Know tool names, machinery names and specific material names used for the Focussed practical tasks.Know specific tools used on 2D Design | Structural properties of materials. E.g. Strength, Elasticity etc.Forces acting upon a structure. E.g. Compression, tension etc.Revisit sketching skills  | What is a specification. ACCESS FMKnow the types of research a designer would carry out to help solve a problem. Secondary/Primary.Know the types of 2D and 3D sketching used by a designer. | Planning an activity. Problem Solving.Constructing WallsMaking different wooden joints | Planning an activity.Problem Solving.Constructing Walls |
| Disciplinary Knowledge | Use of 2D design to draw basic shapes.Use of basic hand tools and machinery to make products from wood.How to work safely in DT.Basic sketching skills | Know how to build a structure to support/hold a weight. Taking inspiration from other designs.Evaluate weak spots and points of failure, stating improvements.Sustainable use of materials.  | Know how to use research to develop ideas and refine ideas.Generate a specification for a game design.Revisit existing knowledge of CAD/CAM timbers, plastics, packaging, casting metals to create a commercially viable game.  | Practice activities towards pupils being able to complete a final assignment that would cover the criteria P1, P2, M1, M2, D1 and D2 for both units.Know how to lay bricks to make a simple wall. | Practice activities towards pupils being able to complete a final assignment that would cover the criteria P1, P2, M1, M2, D1 and D2 for the bricklaying unit.Know how to lay bricks to make a simple wall. |
| Resources | Teacher demonstrationCAD/CAM equipment.DT workshop.Pupil work booklet. | Teacher demonstrationCAD/CAM equipment.DT workshop.Pupil work booklet. | Teacher demonstrationCAD/CAM equipment.DT workshop.Pupil work booklet. | Area for Bricklaying.Carpentry workshop (DT Room)Tools and equipment for both trades.PPE.Teacher demonstration.Technician Support | Area for Bricklaying.Tools and equipment for bricklayingPPE.Teacher demonstration.Technician Support. |
| Literacy/Numeracy Skills | Subject specific technical vocabulary.Measure using mm and cm. | Subject specific technical vocabulary.Working out strength to weight ratios | Designer research and analysisSubject specific vocabulary.Use of measure to design products of an appropriate size | Report writing. Generating a plan in table form. Recognising key technical vocabulary, E.g.. tools names, wall types etc. Measuring using various units, Estimating & Calculating quantities and dimensions. | Report writing. Generating a plan in table form. Recognising key technical vocabulary, E.g.. tools names, wall types etc. Measuring using various units, Estimating & Calculating quantities and dimensions. |
| Assessment | Verbal feedback, self-assessment. Photographic evidence. End of topic assessment. | Verbal and Written feedback.Self feedback.End of topic assessment. | Verbal and written feedback.Peer and self feedback.End of topic assessment | Verbal feedback. Observation of skills/Observation feedback sheet. Photographic evidence of finished product | Verbal feedback. Observation of skills/Observation feedback sheet. Photographic evidence of finished product |
| AUT 2 TOPIC | Toy Train. Electronic Xmas Decoration. | Automata/Mechanisms. | Home Storage | Bricklaying and Carpentry | Bricklaying & Planning for the future.  |
| Key Focus | Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge | Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge | Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge | Tools, equipment and machinery recognition for both trades.Types of Walls used in bricklaying.Types of wooden joints used in carpentry | Tools, equipment and machinery recognition for bricklaying.Types of Walls used in Bricklaying. |
| SubstantiveKnowledge | Pupils know the names of 2 hardwoods, 2 softwoods, 2 manmade boards. Know the names of 2 methods of joining wood.Name Electronic Components.Recognise a simple electronic circuit. | Different CAM’s and their uses.Everyday examples and uses of levers and linkages.Revisit knowledge of timbers and methods of assembling timber. | Revisit specification and research skills to identify a client need.Revisit 3D CAD skills to look at example of 3d Drawings of storage solutions. Revisit 3D sketching skills. Demonstrate exploded drawings.Revist | Planning an activity.Problem Solving.Constructing WallsMaking different wooden joints | Planning an activity.Problem Solving.Constructing Walls |
| Disciplinary Knowledge | Know how to solder.Know how to create a simple circuit.Know how to join wood together. | Know how to build a simple frame and assemble a simple CAM and follower to the toy. Know how to add a simple linkage to create movement.Revisit how to assemble wooden frames | Be able to develop ideas through Iterative design.Be able to work independently from their own drawings using the equipment in DT to create a home storage solution. | Practice activities towards pupils being able to complete a final assignment that would cover the criteria P1, P2, M1, M2, D1 and D2 for both units. | Practice activities towards pupils being able to complete a final assignment that would cover the criteria P1, P2, M1, M2, D1 and D2 for the bricklaying unit. |
| Resources | Teacher demonstrationCAD/CAM equipment.DT workshop.Pupil work booklet. | Teacher demonstrationCAD/CAM equipment.DT workshop.Pupil work booklet. | Teacher demonstrationCAD/CAM equipment.DT workshop.Pupil work booklet. | Area for Bricklaying.Carpentry workshop (DT Room)Tools and equipment for both trades.PPE.Teacher demonstration.Technician Support | Area for Bricklaying.Tools and equipment for bricklayingPPE.Teacher demonstration.Technician Support. |
| Literacy/Numeracy Skills | Subject specific technical vocabulary.Measure using mm and cm.Difference between radius and diameter | Subject specific technical vocabulary.Mechanism research and analysis.Measure using mm and cm | Subject specific vocabulary.Calculations on sizes.Calculations on costings of materials. | Report writing. Generating a plan in table form. Recognising key technical vocabulary, E.g.. tools names, wall types etc. Measuring using various units, Estimating & Calculating quantities and dimensions. | Report writing. Generating a plan in table form. Recognising key technical vocabulary, E.g.. tools names, wall types etc. Measuring using various units, Estimating & Calculating quantities and dimensions. . |
| Assessment | Summative end of term assessmentPhotographic evidenceBooklet | Summative end of term assessmentPhotographic evidenceBooklet | Summative end of term assessmentPhotographic evidenceBooklet | Verbal feedback. Observation of skills/Observation feedback sheet. Photographic evidence of finished product | Verbal feedback. Observation of skills/Observation feedback sheet. Photographic evidence of finished product |

|  |  |  |
| --- | --- | --- |
| A picture containing text  Description automatically generated | DT Curriculum | SPRING 2023 |
|  | YEAR 7 | YEAR 8 | YEAR 9 | YEAR 10 | YEAR 11 |
| SPR 1 TOPIC | Desk Tidy Solutions.Mobile Phone storage. | Packaging | Microcontrollers | Bricklaying and Carpentry.Summative Assessment Tasks. Unit A1 Being Organised | Bricklaying & Planning for the future.  |
| Key Focus | Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge.Pupils will make a range of small commercial products to help develop the key skills. | Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge | Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge | Building of brick wall to suit the requirements of the assignment brief.Building of coffee table to suit the requirements of the assignment brief. | Building of brick wall to suit the requirements of the assignment brief. |
| SubstantiveKnowledge | Revisit measuring/marking out. Names of Tools and Equipment to do thisCAD/CAM. Knowledge of specific tools used to trace objects in 2D Design | Purpose of packaging.Environmental issues of packaging. NETs.Tessellating/nesting of materials.Revisit plastic types  | Revisit Input, process, output.Pupils know what a microcontroller is. PIN Numbers etc. Pupils know what blocky is and the functions of the software to programme a microcontrolller.  | Planning an activity.Problem Solving.Constructing WallsMaking different wooden joints | Planning an activity.Problem Solving.Constructing Walls |
| Disciplinary Knowledge | Revisit measuring/markingUse of 2D Design to trace pictures for laser cutting.Use of TinkerCad to draw 3D products for 3D printing.Self Evaluation of workResearch Skills – Analysis of Designers.3D sketching skills | Know how to draw elements of cardboard packaging using 2D Design. Shape/Design etc.Use of vacuum former to create holder for chocolates | Pupils can build a complex microcontroller circuit. Pupils can use Blocky to programme a microcontroller. Pupils can edit a programme on blocky and then adjust the outputs on the micro controller.Pupils can design a cyberpet to house the microcontroller | Independent work on final assignment that covers the criteria P1, P2, M1, M2, D1 and D2 for both units.This will be from week 4 of spring term 1.  | Independent work on final assignment that covers the criteria P1, P2, M1, M2, D1 and D2 for the bricklaying unit.This will be from week 4 of spring term 1.  |
| Resources | Laptops.TinkerCad softwareDT workshop | Laptops.TinkerCad softwareDT workshop | Laptops.TinkerCad softwareDT workshop | Area for Bricklaying.Carpentry workshop (DT Room)Tools and equipment for both trades.PPE.Assignment Briefs Logbook | Area for Bricklaying.Tools and equipment for bricklayingPPE.Assignment Brief.Logbook |
| Literacy/ Numeracy skills | Subject specific technical vocabulary.Measure using mm and cm.Difference between radius and diameterUse of Co-Ordinates for drawing shapes to size.Visual understanding of 3D shapes. | Subject specific technical vocabulary.Use of nets in Maths. 2D to 3D visualisation. | Subject specific technical vocabulary.Mathematical thinking to adjust timings on microcontroller. | Report writing. Generating a plan in table form. Recognising key technical vocabulary, E.g.. tools names, wall types etc. Measuring using various units, Estimating & Calculating quantities and dimensions. | Report writing. Generating a plan in table form. Recognising key technical vocabulary, E.g.. tools names, wall types etc. Measuring using various units, Estimating & Calculating quantities and dimensions. . |
| Assessment | Verbal feedback, self-assessment. Photographic evidence. End of topic assessments. | Verbal feedback, self-assessment. Photographic evidence. End of topic assessments. | End of topic assessment | Verbal feedback. Observation of skills/Observation feedback sheet. Photographic evidence of finished product.Summative Assessment of final projects. | Verbal feedback. Observation of skills/Observation feedback sheet. Photographic evidence of finished productSummative Assessment of final projects. |
| SPR 2 TOPIC | Desk Tidy Solutions.Mobile Phone storage. | Sublimation Printing | Pupils led final project. | Bricklaying and Carpentry.Summative Assessment Tasks. | Unit CON11 Decorating an inside wall. |
| Key Focus | Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge.Pupils will make a range of small commercial products to help develop the key skills. | Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge | Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge | Building of brick wall to suit the requirements of the assignment brief.Building of coffee table to suit the requirements of the assignment brief. | Building of brick wall to suit the requirements of the assignment brief. |
| SubstantiveKnowledge | Revisit wood types. Revisit tools and equipment names.Know group, align and duplicate on TinkerCadKnow Path tool and changing line types on 2D Design for CAM purposes.Know how FDM 3D printing works.. Technical knowledge of types and forming methods of plastics. | Materials and Machinery used in sublimation printing.The types of products that can be printed on.Logo design. Why are they important.Branding/ Corporate Identity. | Pupils revisit skills from KS3 to follow the design process.They will identify a need, carry out research, create initial ideas, create a specification, generate further ideas, develop ideas and prototype a product to suit a need of their choice.Finally, they will evaluate their idea. | Planning an activity.Problem Solving.Constructing WallsMaking different wooden joints | Planning an activity.Problem Solving.Constructing Walls |
| Disciplinary Knowledge | Know how to assemble products using slotting techniques and Butt techniques with glue guns.Know how to form plastics. | Know how to use a sublimation printer, heat press and mug press safely to create a range of products. They will know timings and where to source products from. | Pupils will produce their final project. Seeking help and support with new skills and techniques as and when needed. | Independent work on final assignment that covers the criteria P1, P2, M1, M2, D1 and D2 for both units.This will be from week 4 of spring term 1.  | Independent work on final assignment that covers the criteria P1, P2, M1, M2, D1 and D2 for the bricklaying unit.This will be from week 4 of spring term 1.  |
| Resources | Laptops.TinkerCad softwareDT workshop tools and equipment. | Laptops.Design softwareDT workshop tools and equipment. | Laptops.Design softwareDT workshop tools and equipment. | Area for Bricklaying.Carpentry workshop (DT Room)Tools and equipment for both trades. PPE.Assignment Briefs Logbook | Area for Bricklaying.Tools and equipment for bricklayingPPE.Assignment Brief.Logbook |
| Literacy/ Numeracy skills | Subject specific technical vocabulary.Measure using mm and cm.Difference between radius and diameterUse of Co-Ordinates for drawing shapes to size.Visual understanding of 3D shapes. | Subject specific technical vocabulary. How to work out costings of products to make a profit.Buying in bulk and doing the functional Maths to work out costs. | ResearchSubject specific vocabularyCloze sentences | Report writing. Generating a plan in table form. Recognising key technical vocabulary, E.g.. tools names, wall types etc. Measuring using various units, Estimating & Calculating quantities and dimensions. | Report writing. Generating a plan in table form. Recognising key technical vocabulary, E.g.. tools names, wall types etc. Measuring using various units, Estimating & Calculating quantities and dimensions. . |
| Assessment | Summative end of term assessment. Completed design booklet. | Summative end of term assessment. Completed design booklet. Photographs of products. | End of key stage assessment | Verbal feedback. Observation of skills/Observation feedback sheet. Photographic evidence of finished product.Summative Assessment of final projects. | Verbal feedback. Observation of skills/Observation feedback sheet. Photographic evidence of finished productSummative Assessment of final projects. |

|  |  |  |
| --- | --- | --- |
| A picture containing text  Description automatically generated | DT Curriculum | Summer 2023 |
|  | YEAR 7 | YEAR 8 | YEAR 9 | YEAR 10 | YEAR 11 |
| SUM 1 TOPIC | Metals  | Systems | Taster Sessions | Unit A1 Being OrganisedUnit CON11 Decorating an inside wall. | Exam – Final piece |
| Key Focus | Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge | Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge | Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge | Building of brick wall to suit the requirements of the assignment brief.Building of coffee table to suit the requirements of the assignment brief. | Building of brick wall to suit the requirements of the assignment brief. |
| SubstantiveKnowledge | Name Ferrous/Non-Ferrous Metals & Alloys.Metal forming/casting techniques | INPUT – PROCESS – OUTPUT components used to make electronic products work. E.g. LDR, LEDRevisit CAD/CAM tools for design of the shade.Know what a wood lathe is and the tools used to create an ornamental stand. | CarpentryBricklaying Painting and decoratingPlumbingElectrical Installation taser sessions.Pupils will have skills sessions on the different Construction disciplines. | Planning an activity.Problem Solving.Constructing WallsMaking different wooden joints | Planning an activity.Problem Solving.Constructing Walls |
| Disciplinary Knowledge | Use of CAD to design a mould for casting.Be able to assemble a mould and use the heat treatment area safely to cast metals.Be able to finish pewter to a high quality finish. | How to solder components onto a breadboard and following a circuit diagram.How to use a wood lathe safely to create a light stand. | Know how to mix cement and lay simple bricks.Know how to cut a mortise and tenon joint.Know how to prepare and paint wood.Know how to wire a plug and light switch.Know how to solder a copper pipe. | Independent work on final assignment that covers the criteria P1, P2, M1, M2, D1 and D2 for both units.This will be from week 4 of spring term 1.  | Independent work on final assignment that covers the criteria P1, P2, M1, M2, D1 and D2 for the bricklaying unit.This will be from week 4 of spring term 1.  |
| Resources | Laptops.TinkerCad softwareDT workshop tools and equipment | Laptops.2D Design softwareDT workshop tools and equipment | Laptops.2D Design softwareDT workshop tools and equipment | Area for Bricklaying.Carpentry workshop (DT Room)Tools and equipment for both trades.PPE.Assignment Briefs Logbook | Area for Bricklaying.Tools and equipment for bricklayingPPE.Assignment Brief.Logbook |
| Literacy/ Numeracy skills | Use of grid co-ordinates for producing an accurate mould. Report writing including technical vocabulary. | Report writing including technical vocabulary.Use of colour coding to work out resistor values.Working in different units.E.g. single and K (1000) | Report writing including technical vocabulary. | Report writing. Generating a plan in table form. Recognising key technical vocabulary, E.g.. tools names, wall types etc. Measuring using various units, Estimating & Calculating quantities and dimensions. | Report writing. Generating a plan in table form. Recognising key technical vocabulary, E.g.. tools names, wall types etc. Measuring using various units, Estimating & Calculating quantities and dimensions. . |
| Assessment | Completed booklet, Verbal feedback, observation.Photographs of finished work. | Verbal feedback | Verbal and written feedbackSelf feedback | Verbal feedback. Observation of skills/Observation feedback sheet. Photographic evidence of finished product.Summative Assessment of final projects. | Verbal feedback. Observation of skills/Observation feedback sheet. Photographic evidence of finished productSummative Assessment of final projects. Building of Final portfolio for assessment. |
| SUM 2 TOPIC | Designing for a theme | Designing for a theme | Taster Sessions and group work | Mock Exam Final Piece | Revision |
| Key Focus | Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge | Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge | Design Skills.Making SkillsEvaluating SkillsTechnical Knowledge | Building of brick wall to suit the requirements of the assignment brief.Building of coffee table to suit the requirements of the assignment brief. | Revision for other subjects |
| SubstantiveKnowledge | Application of taught knowledge to a design theme of crafts for a summer fayre. Technical knowledge of Woods, metals and plastics | Application of taught knowledge to a design theme of crafts for a summer fayre. Technical knowledge of Woods, metals and plastics. | Apply knowledge to design a summer fayre game for the summer bbq. | Planning an activity.Problem Solving.Constructing WallsMaking different wooden joints | N/A |
| Disciplinary Knowledge | Investigating/Research Skills. Latest Trends. Designing for a customer.Application of taught knowledge to generate a range of products to be sold at a summer fayre | Investigating/Research Skills. Latest Trends. Designing for a customer.Application of taught knowledge to generate a range of products to be sold at a summer fayre | Pupils work in teams of 3 to create a game to be played at the summer bbq.They will manufacture the game and add the graphics to it. This will use the skills from the taster sessions. | Independent work on final assignment that covers the criteria P1, P2, M1, M2, D1 and D2 for both units.This will be from week 4 of spring term 1.  | N/A |
| Resources | Laptops.2D Design softwareDT workshop tools and equipment | Laptops.2D Design softwareDT workshop tools and equipment  | Laptops.2D Design softwareDT workshop tools and equipment | Area for Bricklaying.Carpentry workshop (DT Room)Tools and equipment for both trades.PPE.Assignment Briefs Logbook | N/A |
| Literacy/ Numeracy skills | Application of technical vocabulary to design and make products when communicating.Use of numeracy skills when costing materials and pricing products. | Application of technical vocabulary to design and make products when communicating. | Application of technical vocabulary to design and make products when communicating. | Report writing. Generating a plan in table form. Recognising key technical vocabulary, E.g.. tools names, wall types etc. Measuring using various units, Estimating & Calculating quantities and dimensions. | N/A |
| Assessment | Summative end of term assessment. Completed design booklet. Photographs of products | Verbal and written feedbackEnd of term assessment. | Verbal and written feedbackClient feedback | Verbal feedback. Observation of skills/Observation feedback sheet. Photographic evidence of finished product.Summative Assessment of final projects. | N/A |