**Design and Technology**

**Our Curriculum Statement:**

**“Within the disciplines of Design and Technology we aim to provide an underpinning of all curriculum areas encouraging independence leading to successful Global Citizens”**

**Graphic Communication Textiles Food and Nutrition**

**Analytical writing, evaluative writing, descriptive writing, instructive language. Measuring and weighing, proportion and graphs, analysis of data, volume, materials analysis, the work of other designers (historical context). Science of food, material properties.**

**IT development of ideas, presenting work, research and analysis, CAD CAM.**

**Self-directed learning, independent outcomes, individual outcomes, teacher self and peer evaluation.**

**Designing and the environment, ethical decisions, food providence, finite and non-finite resources, cultural respect, food and packaging legislation.**

**Design and Technology 5 Year Curriculum Plan 2020**

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|  | | Design and Technology Curriculum Plan | | | |
| **Year** | Textiles | | Graphic Products | Engineering/Product Design | Food Tech |
| **7** | **GCSE Criteria**   * **Key terminology** * **Recording ideas** * **Initial ideas** * **Developing ideas** * **Presenting ideas** | | **GCSE Criteria**   * **Key terminology** * **Recording ideas** * **Initial ideas** * **Developing ideas** * **Presenting ideas** | **GCSE Criteria**   * **Key terminology** * **Existing Products** * **Material properties** * **Initial ideas** * **Developing ideas**   **Presenting ideas** | **GCSE Criteria**   * **Key terminology** * **Food Science** * **Food Provenance** * **Developing ideas** * **Modelling and processing food** |
| **About this project**  The 9-week project is a design and make project.  Students are challenged to design and make a neoprene phone case.  **Basic knowledge for GCSE – fabric construction and application of materials. Working with a range of textile materials and techniques.**  Key terminology is covered through the use of knowledge books which are designed to track and support students through a logical design and make tasks. Knowledge covers key words and key design concepts all linking to GCSE design criteria.  Recording ideas is covered throughout the design and make process where students are asked to record their findings, observations and insights based on their own work and the work of others.  Tasks;   * Analysis of the work of others * Annotation of design ideas * Evaluation of design ideas   Initial ideas are recorded as the first response to the design challenge.  Students are asked to create a range of design ideas which will be taken into design development at a later stage.  Developing ideas is carried out through the refinement and development of initial design ideas.  Developments are recorded using detailed annotation.  Present – students are expected to make a high quality outcome. The outcome is assessed against design criteria.  **LEARNING OVERVIEW**  **Materials covered**   * Calico   **Designing principles**   * Generating design ideas * Developing design ideas * Recording observations * The work of other designers   **Practical skills covered**   * Use of dyes * Batik * Machine sewing * Embroidery * Pattern cutting * Applique * Health and safety   **Assessment**  Assessment will be summative assessment based on a combination of an end of project assessment and theory and practical work completed in lessons. | | **About this project**  The 9-week project is a design and make project.  Students are challenged to design and make a promotional standee advertising a new chocolate bar.  **Basic knowledge for GCSE – card construction and application of materials. Working with simple card construction analytical skills – form and function of key materials.**  Key terminology is covered through the use of knowledge books which are designed to track and support students through a logical design and make tasks. Knowledge covers key words and key design concepts all linking to GCSE design criteria.  Recording ideas is covered throughout the design and make process where students are asked to record their findings, observations and insights based on their own work and the work of others.  Tasks;   * Analysis of the work of others * Annotation of design ideas * Evaluation of design ideas   Initial ideas are recorded as the first response to the design challenge.  Students are asked to create a range of design ideas which will be taken into design development at a later stage.  Developing ideas is carried out through the refinement and development of initial design ideas.  Developments are recorded using detailed annotation.  Present – students are expected to make a high quality outcome. The outcome is assessed against design criteria.  **LEARNING OVERVIEW**  **Materials covered**   * Carton card * PVA glue * Acetate   **Designing principles**   * Generating design ideas * Developing design ideas * Recording observations * The work of other designers   **Practical skills covered**   * Cutting and shaping card * Working with surface developments (Nets) * Card joining techniques * Using a craft knife * Health and safety   **Assessment**  Assessment will be summative assessment based on a combination of an end of project assessment and theory and practical work completed in lessons. | **About this project**  The 9-week project is a design and make project.  Students are challenged to design and make a pine phone stand.  **Basic knowledge for GCSE – knowledge of resistant materials. Working MDF and pine – form and function of key materials.**  **Sustainability.**  Key terminology is covered through the use of knowledge books which are designed to track and support students through a logical design and make tasks. Knowledge covers key words and key design concepts all linking to GCSE design criteria.  Recording ideas is covered throughout the design and make process where students are asked to record their findings, observations and insights based on their own work and the work of others.  Tasks;   * Analysis of the work of others * Annotation of design ideas * Evaluation of design ideas   Initial ideas are recorded as the first response to the design challenge.  Students are asked to create a range of design ideas which will be taken into design development and making at a later stage.  Developing ideas is carried out through the refinement and development of initial design ideas including modelling of ideas.  Developments are recorded using detailed annotation.  Present – students are expected to make a high quality outcome. The outcome is assessed against design criteria delivered at the start of each project.  **LEARNING OVERVIEW**  **Materials covered**   * Pine * Veneer * PVA   **Designing principles**   * Generating design ideas * Developing design ideas * Recording observations * The work of other designers   **Practical skills covered**   * Cutting and shaping card * Working with surface developments (Nets) * Card joining techniques * Using a craft knife * Health and safety * Working with MDF   **Assessment**  Assessment will be summative assessment based on a combination of an end of project assessment and theory and practical work completed in lessons. | **About this project**  The 9-week project is a design and make project.  Students are challenged to design and make a range of snacks using a range of skills and equipment.  **Basic knowledge for GCSE – developing skills in food preparation and cooking methods.**  **Working with a range of ingredients to make a range of snacks.**  Key terminology is covered through the use of knowledge books which are designed to track and support students through a range of practical and theory based tasks. Knowledge covers key words, investigation of ingredients and cooking methods supporting the GCSE design and make criteria.  Students develop their understanding of ingredients to make a range of snacks. Students assess the quality of their own work and the work of others through organoleptic testing and star diagrams.  Tasks   * Use food hygiene, health and safety rules * Investigate ingredients, materials and cooking methods * Design and annotate food packaging * Evaluate food products   Students begin to develop an understanding of food hygiene, personal hygiene and working safely when preparing and handling food.  Students are asked to create a selection of hand held snacks which demonstrate and develop a range of skills and understanding of food commodities.  Students are expected to make a range of high quality products. The outcomes are assessed against the design criteria.  **LEARNING OVERVIEW**  **Materials covered**   * A wide range of food products and ingredients * A range of hand tools and cooking appliances.   **Design principles**   * Investigating making and food preparation skills. * Generating design processes * Developing modelled ideas * Recording evaluations   **Practical skills covered**   * Bridge and claw grip (knife skills) * Baking (oven use) * The melting method (hob use) * The rubbing in method (pastry) * Bread making (kneading, proving and knocking back.)   **Assessment**  Assessment will be summative assessment based on a combination of an end of project assessment and theory and practical work completed in lessons. |
| **8** | **GCSE Criteria**   * **Key terminology** * **Recording ideas** * **Initial ideas** * **Developing ideas** * **Presenting ideas** | | **GCSE Criteria**   * **Key terminology** * **Recording ideas** * **Initial ideas** * **Developing ideas** * **Presenting ideas** | **GCSE Criteria**   * **Key terminology** * **Existing Products** * **Material properties** * **Initial ideas** * **Developing ideas**   **Presenting ideas** | **GCSE Criteria**   * **Key terminology** * **Food Science** * **Food Provenance** * **Developing ideas** * **Modelling and processing food** |
| **About this project**  The 9-week project is a design and make project.  Students are challenged to design and make a phone stand based on the work of iconic print designers.  **Basic knowledge for GCSE – fabric construction and application of materials. Working with a range of textile materials and techniques including print and pattern design.**  Key terminology is covered through the use of knowledge books which are designed to track and support students through a logical design and make tasks. Knowledge covers key words and key design concepts all linking to GCSE design criteria.  Recording ideas is covered throughout the design and make process where students are asked to record their findings, observations and insights based on their own work and the work of others.  Tasks;   * Analysis of the work of others * Annotation of design ideas * Evaluation of design ideas   Initial ideas are recorded as the first response to the design challenge.  Students are asked to create a range of design ideas which will be taken into design development at a later stage.  Developing ideas is carried out through the refinement and development of initial design ideas.  Developments are recorded using detailed annotation.  Present – students are expected to make a high quality outcome. The outcome is assessed against design criteria.  **LEARNING OVERVIEW**  **Materials covered**   * Calico * Stuffing * Rice   **Designing principles**   * Generating design ideas * Developing design ideas * Recording observations * The work of other designers   **Practical skills covered**   * Machine sewing * Pattern cutting * Pattern design * Block printing * Transfer printing * Health and safety   **Assessment**  Assessment will be summative assessment based on a combination of an end of project assessment and theory and practical work completed in lessons. | | **About this project**  The 9-week project is a design and make project.  Students are challenged to design and make a popcorn box which will be used to promote and upcoming cinema release.  **Basic knowledge for GCSE – card construction and application of materials. Working with simple card construction analytical skills – form and function of key materials.**  Key terminology is covered through the use of knowledge books which are designed to track and support students through a logical design and make tasks. Knowledge covers key words and key design concepts all linking to GCSE design criteria.  Recording ideas is covered throughout the design and make process where students are asked to record their findings, observations and insights based on their own work and the work of others.  Tasks;   * Analysis of the work of others * Annotation of design ideas * Evaluation of design ideas   Initial ideas are recorded as the first response to the design challenge.  Students are asked to create a range of design ideas which will be taken into design development at a later stage.  Developing ideas is carried out through the refinement and development of initial design ideas.  Developments are recorded using detailed annotation.  Present – students are expected to make a high quality outcome. The outcome is assessed against design criteria.  **LEARNING OVERVIEW**  **Materials covered**   * Carton card * PVA glue   **Designing principles**   * Understanding the wants of the customer * Producing a promotional item * Generating design ideas * Developing design ideas * Recording observations * The work of other designers   **Practical skills covered**   * Cutting and shaping card * Working with complex surface developments (Nets) * Laser cutting final outcomes * Card joining techniques * Developing ideas using ICT (Illustrator) * Using a craft knife * Health and safety   **Assessment**  Assessment will be summative assessment based on a combination of an end of project assessment and theory and practical work completed in lessons. | **About this project**  The 9-week project is a design and make project.  Students are challenged to design and make an acrylic and pine phone holder with pine base.  **Basic knowledge for GCSE – knowledge of resistant materials. Working pine and acrylic– form and function of key materials. The use of CAD drawings and development of ideas using CAD is also covered in this unit of work.**  Key terminology is covered through the use of knowledge books which are designed to track and support students through a logical design and make tasks. Knowledge covers key words and key design concepts all linking to GCSE design criteria.  Recording ideas is covered throughout the design and make process where students are asked to record their findings, observations and insights based on their own work and the work of others.  Tasks;   * Analysis of the work of others * Annotation of design ideas * Evaluation of design ideas   Initial ideas are recorded as the first response to the design challenge.  Students are asked to create a range of design ideas which will be taken into design development and making at a later stage.  Developing ideas is carried out through the refinement and development of initial design ideas including modelling of ideas.  Developments are recorded using detailed annotation.  Present – students are expected to make a high quality outcome. The outcome is assessed against design criteria delivered at the start of each project.  **LEARNING OVERVIEW**  **Materials covered**   * Corrugated card (modelling) * PVA glue * MDF * Pine * Acrylic   **Designing principles**   * Generating design ideas * Developing design ideas * Recording observations * The work of other designers * Development of design ideas using CAD. * Manufacture of designs using laser cutter.   **Practical skills covered**   * Cutting and shaping materials * Working with surface developments (CAD) * The use of CAD * Using a craft knife * Health and safety * Working with pine   **Assessment**  Assessment will be summative assessment based on a combination of an end of project assessment and theory and practical work completed in lessons. | **About this project**  The 9-week project is a design and make project.  Students are challenged to design and make a range of meals.  **Basic knowledge for GCSE – developing skills in food preparation and cooking methods.**  **Working with a range of ingredients to make a range of meals.**  Key terminology is covered through the use of knowledge books which are designed to track and support students through a range of practical and theory based tasks. Knowledge covers key words, investigation of ingredients and cooking methods supporting the GCSE design and make criteria.  -  Students develop their understanding of ingredients to make a range of meals. Students assess the quality of their own work and the work of others through organoleptic testing and star diagrams.  Tasks;   * Practice food hygiene, health and safety * Investigate ingredients, materials and cooking methods * Investigate the cultural identity of foods * Design and annotate food packaging * Evaluate food products   Students continue to develop an understanding of food hygiene, personal hygiene and working safely when preparing and handling food.  Students are asked to create a selection of meals which demonstrate and develop a range of skills and understanding of food commodities, food provenance and nutritional improvements.  Students are expected to make a range of high quality meals asses against a design criteria.  **LEARNING OVERVIEW**  **Materials covered**   * A wide range of food products and ingredients * A range of hand tools and cooking appliances.   **Design principles**   * Investigating making and food preparation skills. * Understanding the function of ingredients * Generating design processes * Developing modelled ideas * Recording evaluations   **Practical skills covered**   * Mashing and grating (cheesy mash) * Gelatinization (macaroni cheese) * Stir fry (hob use) * The rubbing in method (crumble) * The all in one method (muffins) * Sensory analysis   **Assessment**  Assessment will be summative assessment based on a combination of an end of project assessment and theory and practical work completed in lessons. |
| **9** | **GCSE Criteria**   * **Key terminology** * **Recording ideas** * **Initial ideas** * **Developing ideas** * **Presenting ideas** | | **GCSE Criteria**   * **Key terminology** * **Recording ideas** * **Initial ideas** * **Developing ideas** * **Presenting ideas** | **GCSE Criteria**   * **Key terminology** * **Recording ideas** * **Initial ideas** * **Developing ideas**   **Presenting ideas** | **GCSE Criteria**   * **Key terminology** * **Food Science** * **Food Provenance** * **Developing ideas** * **Modelling and processing** |
| **About this project**  The 9-week project is a design and make project based on the themes forest or oceans.  Students are expected to design and make a range of products (self-directed).  **Basic knowledge for GCSE – Observational drawing skills – what is expected at GCSE.**  **How to interpret a design brief.**  **How to write a design brief.**  **How to analyse and interpret design work.**  **Using materials to respond to a design brief.**  Key terminology is covered through the use of knowledge books which are designed to track and support students through a logical design and make tasks. Knowledge covers key words and key design concepts all linking to GCSE design criteria.  Recording ideas is covered throughout the design and make process where students are asked to record their findings, observations and insights based on their own work and the work of others.  Tasks;   * Analysis of the work of others * Annotation of design ideas * Evaluation of design ideas   Initial ideas are recorded as the first response to the design challenge.  Students are asked to create a range of design ideas which will be taken into design development at a later stage.  Developing ideas is carried out through the refinement and development of initial design ideas.  Developments are recorded using detailed annotation.  Present – students are expected to make a high quality outcome. The outcome is assessed against design criteria.  **LEARNING OVERVIEW**  **Materials covered**   * Range of fabrics * Dying materials * Printing techniques * Zips and fastening   **Designing principles**   * Generating design ideas * Understanding a design brief * Developing design ideas * Recording observations * The work of other designers   **Practical skills covered**   * Sketching and painting skills * Use of dyes * Batik * Machine sewing * Embroidery * Pattern cutting * Applique * CAD/CAM * Health and safety   **Assessment**  Assessment will be summative assessment based on a combination of an end of project assessment and theory and practical work completed in lessons. | | **About this project**  The 9-week project is a design and make project.  Students are expected to design a logo for a company based on a specific design brief. Students are challenged to design and make a range of packaging for new fast food company.  **Basic knowledge for GCSE – complex and demanding card construction and application of a variety of materials. Working with simple card construction analytical skills – form and function of key materials.**  Key terminology is covered through the use of knowledge books which are designed to track and support students through a logical design and make tasks. Knowledge covers key words and key design concepts all linking to GCSE design criteria.  Recording ideas is covered throughout the design and make process where students are asked to record their findings, observations and insights based on their own work and the work of others.  Tasks;   * Analysis of the work of others * Annotation of design ideas * Evaluation of design ideas   Initial ideas are recorded as the first response to the design challenge.  Students are asked to create a range of design ideas which will be taken into design development at a later stage.  Developing ideas is carried out through the refinement and development of initial design ideas.  Developments are recorded using detailed annotation.  Present – students are expected to make a high quality outcome. The outcome is assessed against design criteria.  **LEARNING OVERVIEW**  **Materials covered**   * Carton card * PVA glue * Acetate   **Designing principles**   * Generating design ideas * Presenting ideas to a client * Developing design ideas * Recording observations * The work of other designers   **Practical skills covered**   * Cutting and shaping card * Working with surface developments (Nets) * Card joining techniques * Using a craft knife * CAD/CAM * Health and safety   **Assessment**  Assessment will be summative assessment based on a combination of an end of project assessment and theory and practical work completed in lessons. | **About this project**  The 9-week project is a design and make project.  Students are expected to and make a functional LED lamp using recycled materials.  **Basic knowledge for GCSE – complex and demanding card construction and application of a variety of materials. Working with a variety of materials as well as developing designing and making skills. Construction analytical skills – form and function of key materials.**  Key terminology is covered through the use of knowledge books which are designed to track and support students through a logical design and make tasks. Knowledge covers key words and key design concepts all linking to GCSE design criteria.  Recording ideas is covered throughout the design and make process where students are asked to record their findings, observations and insights based on their own work and the work of others.  Tasks;   * Analysis of the work of others * Annotation of design ideas * Evaluation of design ideas   Initial ideas are recorded as the first response to the design challenge.  Students are asked to create a range of design ideas which will be taken into design development at a later stage.  Developing ideas is carried out through the refinement and development of initial design ideas.  Developments are recorded using detailed annotation.  Present – students are expected to make a high quality outcome. The outcome is assessed against design criteria.  **LEARNING OVERVIEW**  **Materials covered**   * Carton card * PVA glue * Tin * Pine   **Designing principles**   * Generating design ideas * Presenting ideas to a client * Developing design ideas * Recording observations * The work of other designers   **Practical skills covered**   * Cutting and shaping materials * Working with surface developments (Nets) * Wood joining techniques * Using a craft knife * CAD/CAM * Health and safety   **Assessment**  Assessment will be summative assessment based on a combination of an end of project assessment and theory and practical work completed in lessons. | **About this project**  The 9-week project is a design and make project investigating the function of ingredients. Students will go onto research and make a self-directed meal following the GCSE criteria.  **Basic knowledge for GCSE – specific understanding of the scientific processes of a range of food products. Application of a variety of food materials to make a range of food products.**  Key terminology and processes covered through the use of knowledge books which are designed to track and support students through a logical design and make tasks. Knowledge covers key words and key design concepts all linking to GCSE design criteria.  Students develop their understanding of ingredients to make a range of dishes which investigate the function of food ingredients. Students assess the quality of their own work and the work of others through organoleptic testing and star diagrams.  Tasks;   * Practice food hygiene, health and safety * Analysis of ingredients, materials and cooking methods * Investigating the provenance of food * Evaluate food products * Planning food dishes   Students understand aspects relating to food hygiene, personal hygiene and working safely when preparing and handling food.  Students are asked to create a selection of dishes which demonstrate and develop a range of skills and understanding of food commodities, food provenance and nutritional improvements. Create a self-directed product.  Students are expected to make a range of high quality, high skill dishes assed against a design criteria.  **LEARNING OVERVIEW**  **Materials covered**   * A wide range of food products and ingredients * A range of hand tools and cooking appliances.   **Design principles**   * Investigating making and food preparation skills. * Generating time and production plans * Developing modelled ideas * Recording evaluations with star diagrams   **Practical skills covered**   * The whisking method and mechanical raising agent (Swiss roll) * The rubbing in method and chemical raising agents (scones) * Biological raising agent (bread / Chelsea bun) * The function of eggs- coagulation enrobing and aeration (choux pastry and quiche) * The function of fats- pastry investigation rough puff and short crust pastry. * Dairy products, gels and modified starches. (cheesecake) * Protein and vegetable preparation (vegetarian alternative or meat based lasagne) * Sensory analysis   **Assessment**  Assessment will be summative assessment based on a combination of an end of project assessment and theory and practical work completed in lessons. |
| **10** | **OCR Art and Design**  **(Textile Design)**  **GCSE Criteria**  **60% Portfolio**  **40% Externally set task**  **10 hour practical exam**  **(Exam over 2 days)**   * **Key terminology** * **Recording ideas I GCSE AO3** * **Initial ideas I GCSE AO1** * **Developing ideas I GCSE AO2** * **Presenting ideas I GCSE AO4** | | **OCR Art and Design**  **(Graphic Communication)**  **GCSE Criteria**  **60% Portfolio**  **40% Externally set task**  **10 hour practical exam**  **(Exam over 2 days)**   * **Key terminology** * **Recording ideas I GCSE AO3** * **Initial ideas I GCSE AO1** * **Developing ideas I GCSE AO2** * **Presenting ideas I GCSE AO4** | **OCR Cambridge Nationals**  **(Design Engineering)**  **50% NEA**  **50% Terminal Exam**  **AQA Design Technology**  **50% NEA**  **50% Terminal Exam** | **WJEC**  **Level 1/2 Hospitality and Catering**  **The Hospitality and Catering Industry – Paper based assessment**  **Hospitality and Catering in Action** |
| **11** | **Year 11**  **Year 11 will involve either another self-directed project or further building upon of Year 10 projects. This will last until January when externally set tasks are released to schools.**  **Students will then spend lesson time preparing for the externally set tasks.**  Students will ensure they have covered all of the assessment criteria when working on exam prep. | | **Year 11**  **Year 11 will initially continue with Year 10 projects until January when externally set tasks are released to schools.**  **Students will then spend lesson time preparing for the externally set tasks.**  Students will ensure they have covered all of the assessment criteria when working on exam prep. | **Year 11**  **Year 11 will initially continue with Year 10 projects until January when externally set tasks are released to schools.**  **Students will then spend lesson time preparing for the externally set tasks.**  Students will ensure they have covered all of the assessment criteria when working on exam prep. | **Year 11**  **Year 11 will begin to study Unit 1 for the written exam paper. Investigating and demonstrating an understanding of the catering and hospitality trade.**  Students will ensure they have covered the industrial practices and operations of a catering establishment. |

***Curriculum Intent KS3***







